Service Manual

LCD TV

MODEL:LC26T1E/LC32T1E/LC37T1E/LC42T1E

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Notice: Please read this manual and the user's manual before repairment. This manual is just for reference.

After-sales Service manual

Model: LC26T1E/LC32T1E/LC37T1E/LC42T1E

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Note：Disassembly Instructions

1. Preparation before maintenance: Common contents, it mainly expresses the information which need your attention, including the Safety instruction and the Protect measure..
2. Electric connection chart: Identify the plug specification and the connection between the pins and the board by the unit of PCB.
3. Block diagram of electric: Show the signal processing of the unit in the unit of 1C or circuit.
4. Schematic Diagrams: Provide the circuit chart in the unit of PCB and provide the detailed principle chart with the simple signal processing and control instruction.
5. Software version view and upgrade instruction: The method of software version view and the software upgrade instruction.
6. Maintenance spare part list: Including the Package, Accessory, PCB, Connector, etc. and the material list that the service person can replace themselves.

1、Preparation before maintenance

1.1、Master basic information.

Adequate communication with customers is required, to learn how the trouble happens and what the status is. This will help to promote effect and efficiency of the service.

Learn if the trouble has conflict with technical standards.

1.2、Reappearance of the trouble.

Please assure:

a. If the trouble exists as the customer described, and make initial judgment of the status, then decide what to do next;

b. If any other trouble exists;

c. May reset the machine under some instances. For example: when the picture and color could not satisfy the customer, could reset the machine first and then make amendment. Method: Press the “source” button for about five seconds, the” Factory setting” will be displayed, select the" factory reset” and enter, then select the" All Setting(Not include calibration)” and enter.

d. Avoid the worse of trouble during the repair.

1.3、 Judgment and Repair

Judge the status of the trouble and find the reason, then repair.

Please cut off the power before disassemble and welding.

Read the manual carefully to learn security attentions.

Please obey the requirement of Disassemble drawing and description strictly , use specified screw, take care not to make any scars on the machine especially on the LCD. Please wear anti-electrostatic gloves when welding. Please review the status of power, crystal, clock, input and output data. Please read Spare part list if need any change.

Check the packing material and accessories when change the machine for the customer.

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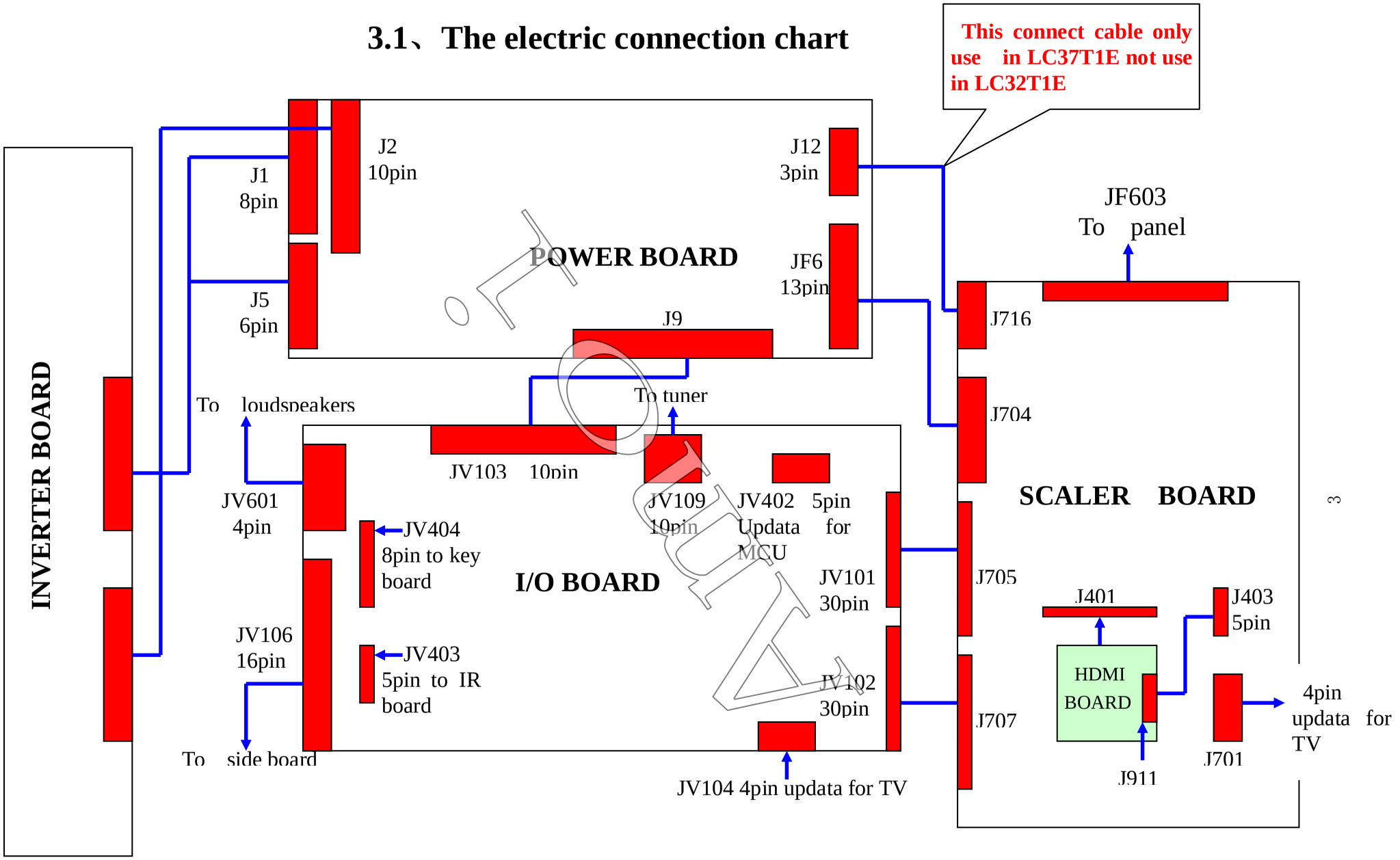
2.Specifications

MODEL	LC26T1E	LC32T1E	LC37T1E	LC42T1E
Power Supply	Input: AC 100-240V 50Hz/60Hz	Input: AC 100-240V 50Hz/60Hz	Input: AC 100-240V 50Hz/60Hz	Input: AC 100-240V 50Hz/60Hz
Power Consumption	Standby: < 1W	Standby: < 1W	Standby: < 1W	Standby: < 1W
	130W	150W	200W	220W
Audio System	BG/DK/I /L/L'	BG/DK/I /L/L'	BG/DK/I /L/L'	BG/DK/I /L/L'
TV System	PAL, SECAM	PAL, SECAM	PAL, SECAM	PAL, SECAM
VGA	Sync: H/V Separate, TTL, P. or N.	Sync: H/V Separate, TTL, P. or N.	Sync: H/V Separate, TTL, P. or N.	Sync: H/V Separate, TTL, P. or N.
	Video Signal: 0.7Vp-p, 75ohm	Video Signal: 0.7Vp-p, 75ohm	Video Signal: 0.7Vp-p, 75ohm	Video Signal: 0.7Vp-p, 75ohm
Audio	Audio in: RCA JACK (L&R), 0.5Vrms (-9dB)	Audio in: RCA JACK (L&R), 0.5Vrms (-9dB)	Audio in: RCA JACK (L&R), 0.5Vrms (-9dB)	Audio in: RCA JACK (L&R), 0.5Vrms (-9dB)
	Frequency Response: 80Hz-15KHz (at-3dB)	Frequency Response: 80Hz-15KHz (at-3dB)	Frequency Response: 80Hz-15KHz (at-3dB)	Frequency Response: 80Hz-15KHz (at-3dB)
	Earphone out: Max.10mW Output (Φ3.5mmStereo Jack,32Ω)	Earphone out: Max.10mW Output (Φ3.5mmStereo Jack,32Ω)	Earphone out: Max.10mW Output (Φ3.5mmStereo Jack,32Ω)	Earphone out: Max.10mW Output (Φ3.5mmStereo Jack,32Ω)
Environmental Considerations	Operating Temperature: 5℃－40℃	Operating Temperature: 5℃－40℃	Operating Temperature: 5℃－40℃	Operating Temperature: 5℃－40℃
	Operating Humidity 10%-80% Relative Humidity	Operating Humidity: 10%-80% Relative Humidity	Operating Humidity: 10%-80% Relative Humidity	Operating Humidity: 10%-80% Relative Humidity
Specification of Monitor	Display Colour: 16.7M colours	Display Colour: 16.7M colours	Display Colour: 16.7M colours	Display Colour: 16.7M colours
	Pixel Pitch: 0.4215（H） 0.4215（V）	Pixel Pitch: 0.51（H） 0.51（V）	Pixel Pitch: 0.426（H） 0.426（V）	Pixel Pitch: 0.1615（H） 0.4845（V）
	Aspect Ratio: 16:9	Aspect Ratio: 16:9	Aspect Ratio: 16:9	Aspect Ratio: 16:9
	Lamp Life: >=60000H	Lamp Life: >=60000H	Lamp Life: >=60000H	Lamp Life: >=60000H
Size	Unit dimension(Without stand): 512(H) ×699(W) ×93(D)mm	Unit dimension(Without stand): 586(H) ×825(W) ×102(D)mm	Unit Dimension(Without stand): 670(H) × 950(W) ×105(D)mm	Unit Dimension(Without stand): 768(H) ×1067(W) ×119(D)mm
	Unit dimension: 552(H) ×699(W) × 295(D) mm	Unit dimension: 636(H) ×825(W) × 295(D) mm	Unit dimension: 730(H) × 950(W)× 340(D) mm	Unit dimension: 823(H) × 1067(W) × 340(D) mm
Weight	Gross Weight: 17kg Net Weight: 13.5kg	Gross Weight: 23.5kg Net Weight: 18.5kg	Gross Weight: 32kg Net Weight: 25.5kg	Gross Weight: 36kg Net Weight: 29.5kg

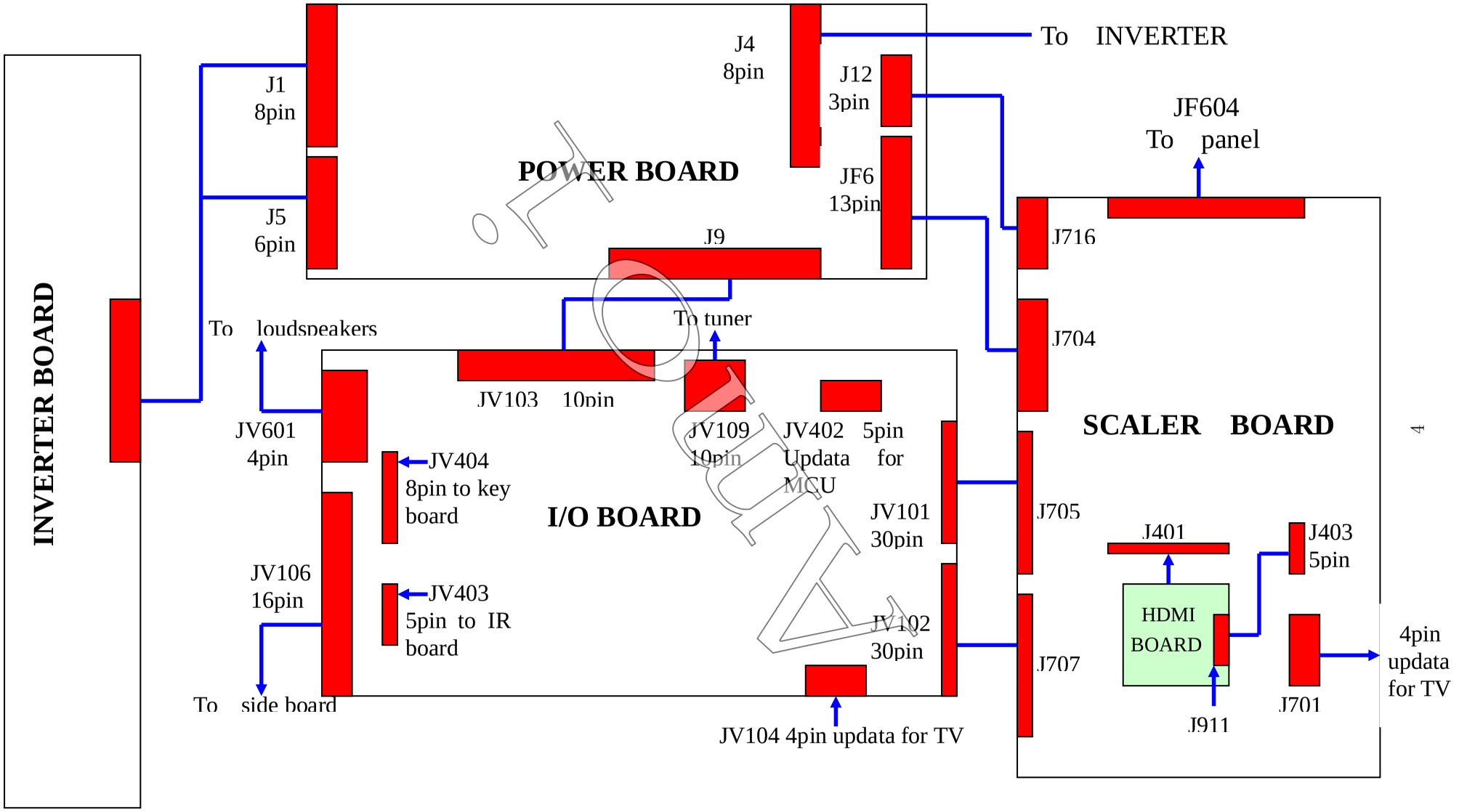
NOTE: Specifications subject to change without prior notice. Weight and dimensions are approximate.

3.1、The electric connection chart



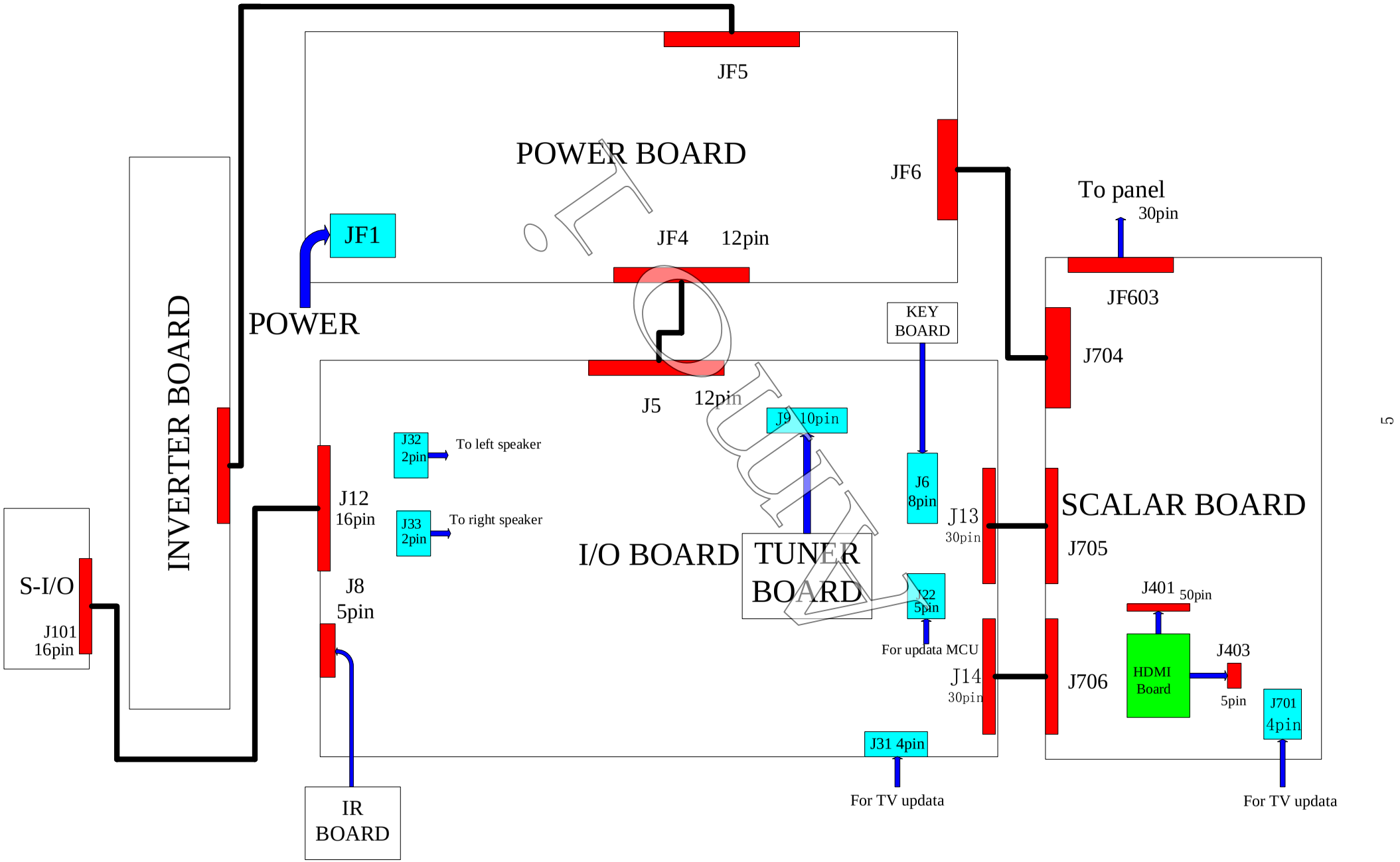
connection chart for LC32T1E and LC37T1E

3.2、The electric connection chart



connection chart for LC42T1E

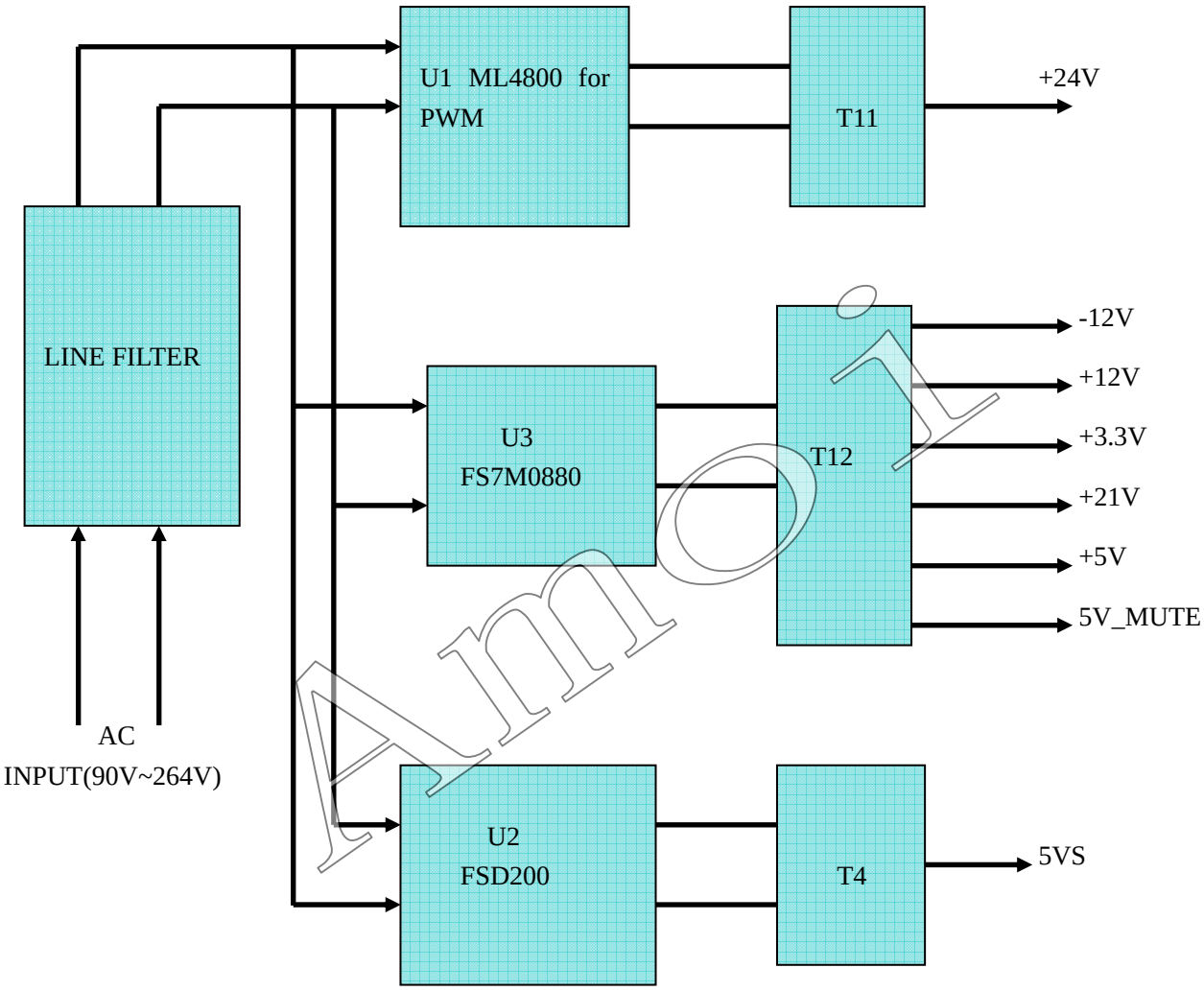
3.3 The electric connection chart



connection chart for LC26T1E

4.1.1、The block diagram of POWER

（USE FOR LC32T1E/LC37T1E/LC42T1E）



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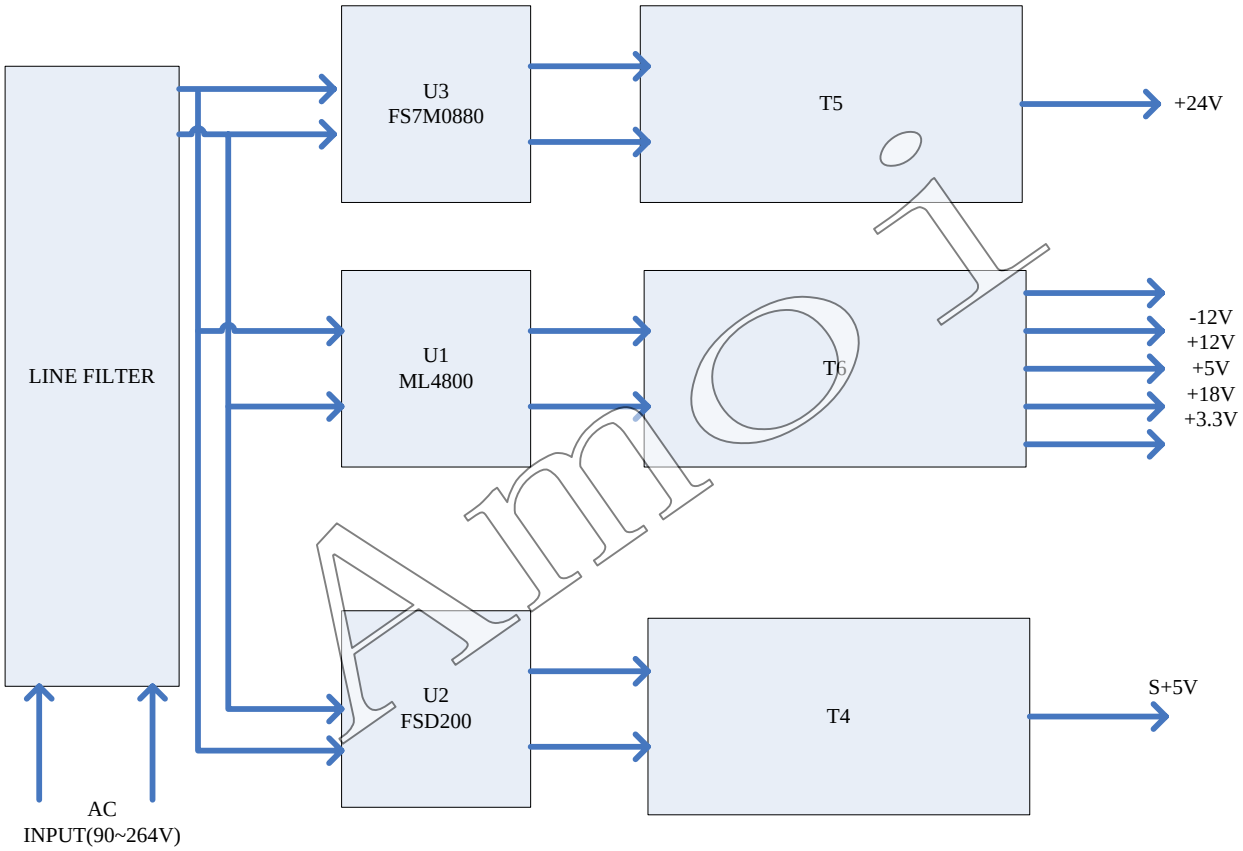
4.1.2、The Block Diagram of POWER

（USE FOR LC26T1E）



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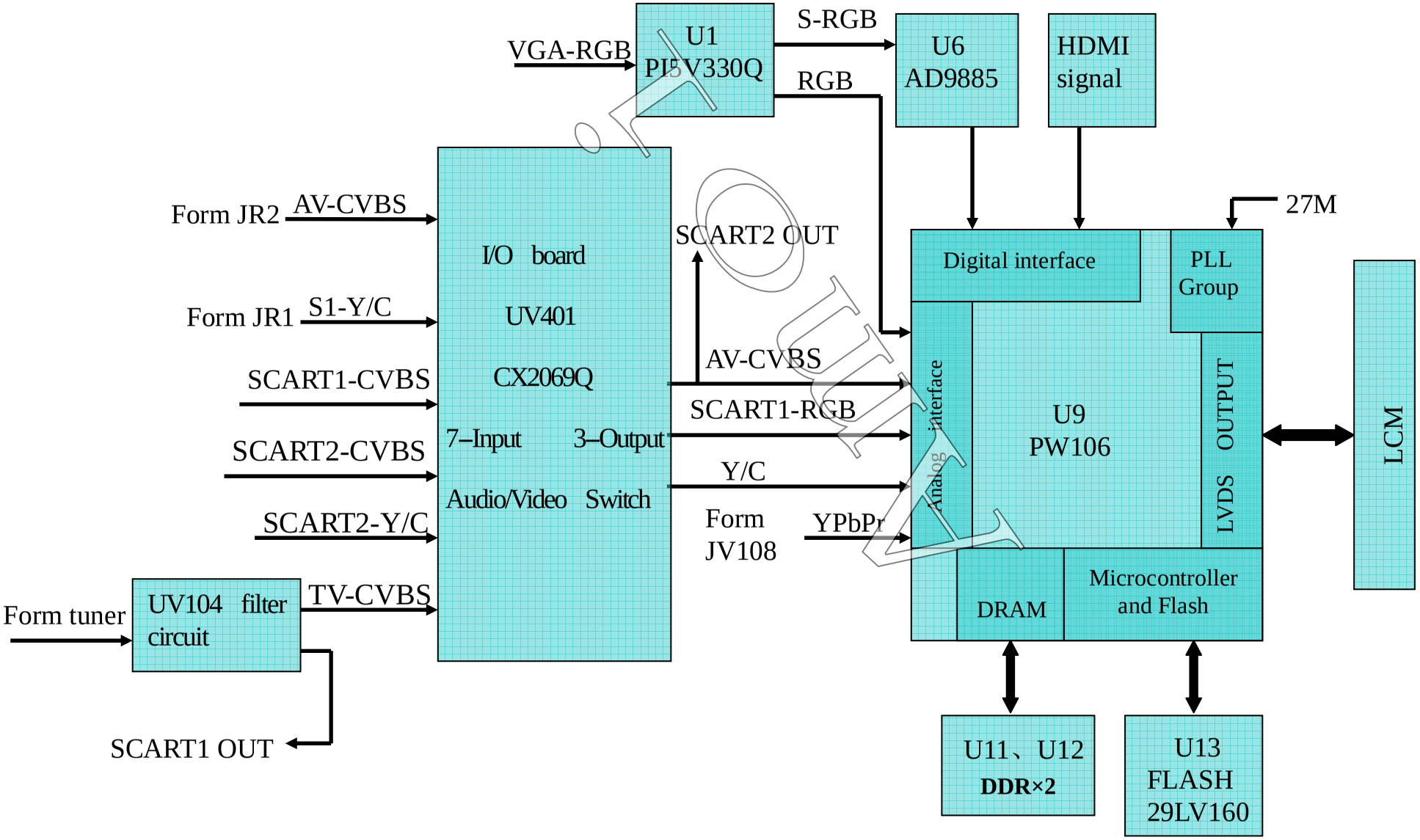
4.2、The block diagram of video

(USE FOR LC32T1E/LC37T1E/LC42T1E)



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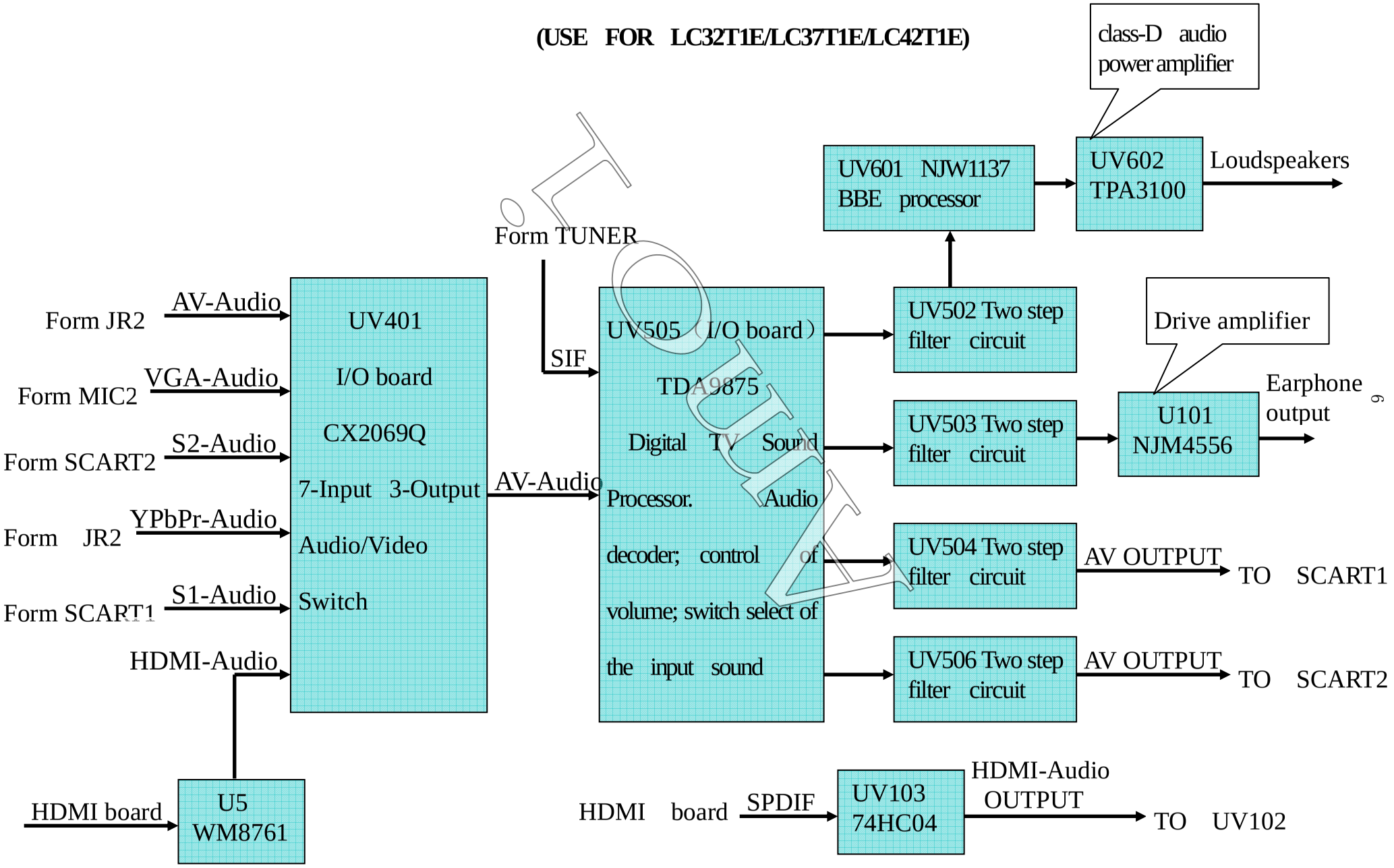
4.3、The block diagram of audio

(USE FOR LC32T1E/LC37T1E/LC42T1E)



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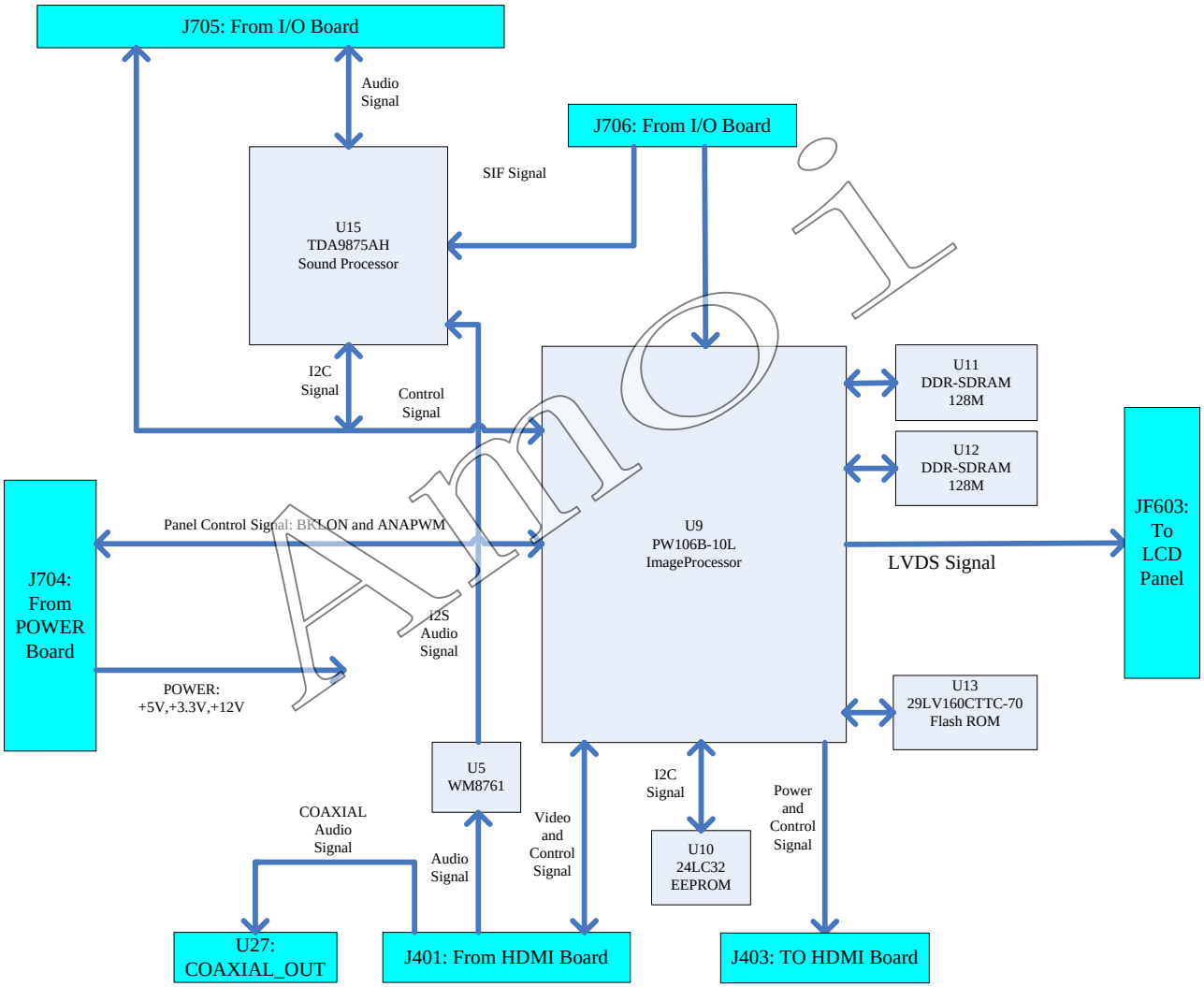
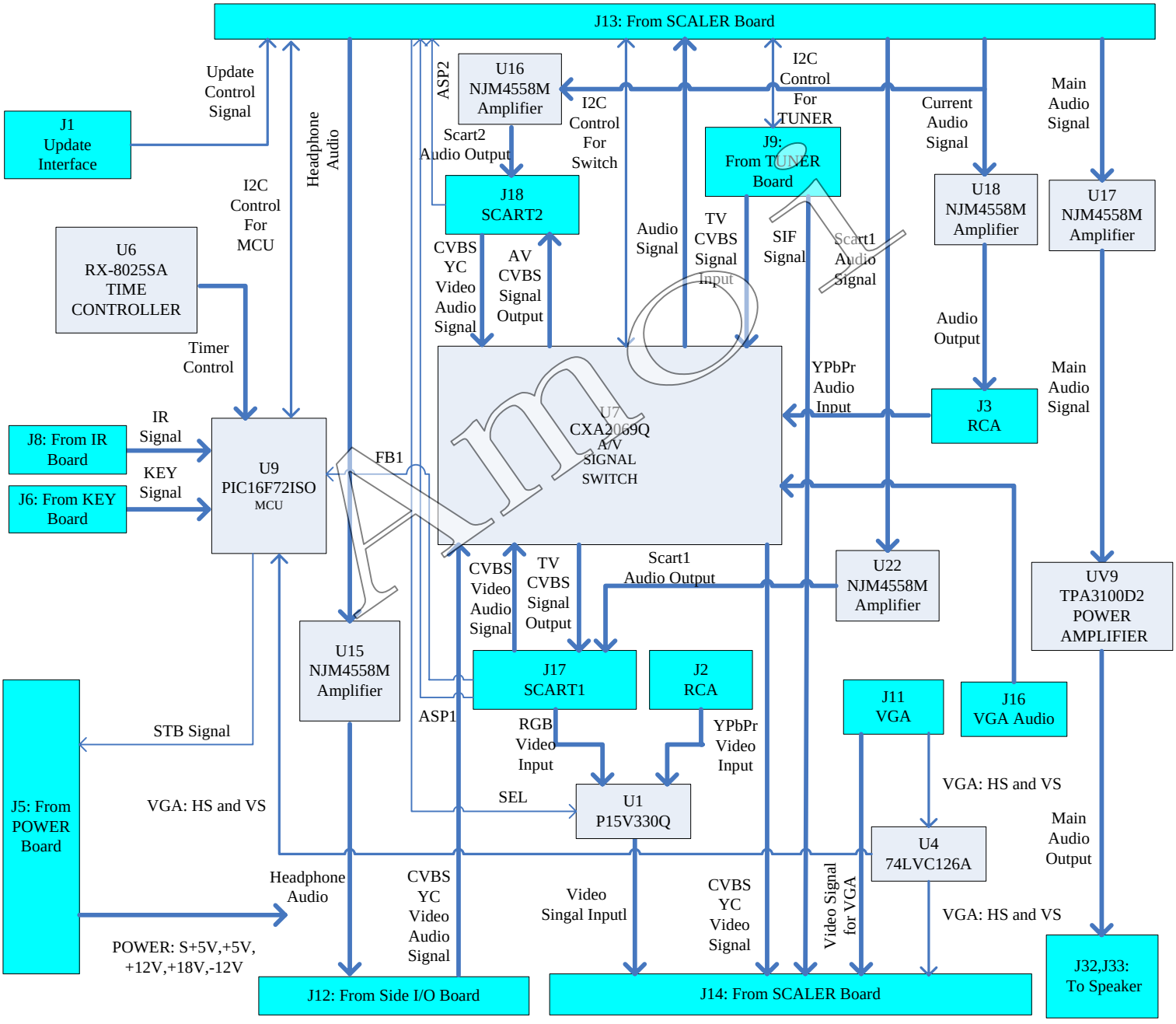
4.4、The Block Diagram For SCALER BOARD

（USE FOR LC26T1E）



4.5、The Block Diagram For I/O BOARD

（USE FOR LC26T1E）



5、Work Principle

The product mainly handles with video signal, such as RF (cable TV), CVBS(composite video), S-VIDEO(Y/C signal), YPbPr(progressive video), SCART, DTV signal, VGA and HDMI, as well as audio signal amplifying output. AV includes S-VIDEO and CVBS. In addition, it can input VGA and other signals to realize PIP function. Because the product is comprised of three boards, the work principle will separate into three parts as follows:

5.1、Work Principle of Power Board

1. When power is supplied, whether the TV is turned on or off is decided by the voltage of STB pin in the mini MCU PIC16F72, the high voltage means standby, and the low voltage means turning on.

In the standby state, the winding 5 and winding 7 of transformer T4 will supply 5VS voltage after regulated by D13, then the power is fed back to optical coupling, After regulated by diode D14.the 5VS becomes steady. The circuit combined with transformer T4 is a standby circuit, RE1 is off, then the power consumption could be less then 1W. When STB pin in MCU sends out a low voltage order, the RE1 circuit will work and the two main circuits output 24V、+/-12V, 5V, 3.3V.

2. When the RE1 is on, the power (90-264VAC) will be transformed into sine wave by DB2. The C27 will be charged by D3 at first, not by T3, to avoid the C27 charge saturation, which may cause hardware damages such as MOS JM1 failure.

At the same time, the pin 2、4 of U1 ML4800 will set up current and voltage for the multiplication organ inside. Then C25 will be charged by R17 and R18, supplying the power for the pin 13 (VCC) of U1. The PFC circuit begins to work, PFC circuit includes pin 1, 2, 3, 4, 15, 16, 12 and correlative circuits, pin 13 of U1 (shares the power supply with PWM), pin 14(7.5V reference voltage), pin 7(brae pulse producing circuit, provides switch frequency), together with JM1, T3 and D8.

When PFC begins to work, the pin 12 output switch waves, opposite to the half wave sine waves, so when the voltage is highest, the duty cycle is lowest, when the voltage is lowest, the duty cycle is highest. When JM1 is on, T3 charges, and when JM1 is off, the stored energy of T3 is released to C27 by the loop circuit consist of D8, C27, R81, and R83. In this way, the voltage of C27 is stabilized to 380VDC. feed back by the 15 pin of U1. R26, R27 and R23 compose the voltage dividing resistances. After dividing, the voltage of R23 reaches 2.5V.There is a 2.5V exact voltage source inside the pin 15. Comparing with it, equation means the voltage reaches 380V steadily. If the voltage of C27 is lower than 380V, then the voltage of R23 will be lower than 2.5V. Compared with of 2.5V voltage, pin 16 will output high voltage, making the duty cycle of pin 12 higher, then the energy storage of T3 increases, and voltage of C27 is higher. Contrarily, the voltage of C27 is lower.

The pin 3 of U1 4800 is the detecting pin for PFC average voltage mode. The minus voltage peak value on the pin 3 by R81 should not exceed 1V. Otherwise, the

current is limited, and the 380V voltage of PFC will descend. Actually, the current is limited when the peak value of this board is 0.7V. The pin 4 is a line voltage detecting pin. It detects the input AC Voltage, and when the 264V voltage becomes lower to about 80V, the amplifying ratio of the 4th pin is higher, and the duty cycle of the pin 12 of FPC is higher, the current to the PFC is higher. So when the input voltage decreases, the power output to C27 will not change. The pin 2 is power detecting pin. The purpose of this pin is:

1) It tries to make the frequency and phase of PFC switch current envelopment same with input voltage's, so the PF is close to 1 and the resonance waves are smallest;

2) It decreases when the duty cycle of PFC increases, increases when detecting current decreases.

3. When the TV is turned on and the PFC voltage of C27 reaches 380V 2-3%, the switching power supply PWM begins to work, pin 5 of 4800 is turned on and begins to charge, when charges to 0.7V, the PWM circuit begins to work, the duty cycle of PWM cannot exceed 50% when stimulating positively, therefore the duty cycle of 4800 is limited to 48%, in order to protect switching power. After this, pin 11 output switch pulse signal, makes the transformer T11 work. After rectificated by D15, pin 6 and pin 7 of the transformer T11 provide a voltage supply, which is between 13V and 17.5V. To pin 13 (VCC) of 4800, this positive stimulating transformer just transform voltage. After rectificated by D16, T8 begins to store energy, C49 filters and outputs 24V,

The 24V voltage regulation process is: 24V provides 2.5V voltage by voltage division circuit made of R42, R43,then inputs 2.5V to U6, in TVL431, compares with the internal norm voltage regulation source, when 24V output voltage is low, U6 pulls down U5 light coupling voltage ,which pulls down the voltage of pin 6 in 4,800 accordingly, increases duty cycle of the pin 11(PWM), so the 24V output power increases, resulting in the rising of 24V. Contrarily, it drops down.

There is another FS7M0880 switching power supply, when PFC voltage 380V rises, pin 3(VCC) of U3 FS7M0880 begins to charge by R65, when VCC reaches 13 - 16V, pin 5 electric capacity begins to charge and to work. Pin 5 and pin 6 of T12 output voltage accordingly, supplies the power for VCC, the T11 output 5V, +/-12V voltage. This switching power supply is regulated from 5V; the voltage regulation process is the same with 24V's.

5.2、Work Principle of SCALER board

1、SCALER board can: process all video signals; provide the display format which is accordance with PANEL requirement; finish OSD display and menu operation; communicate with mini MCU on IO board to receive the key signal and handle correspondingly.

2、 Features of SCALER board:

The core of SCALER board is single chip PW106. After the outer signal enters PW106, it is all up to this chip to finish the video decoding of all formats and picture processing, and finally provide the PANEL-required display format and

switch into LVDS signal to send it to PANEL for processing.

3、flow of main video signal process:

CVBS composite video signal of TUNER (including TUNER signal) and S-VIDEO signal is output to PW106 of SCALER board via 2069 of IO board.

PW106 handles with the input video signal, such as resolution and field switch, OSD overlapping, multi-window handling, to switch into PANEL-required resolution. And LVDS channel transports the picture data to PANEL and finally the correct picture is displayed on PANEL.

It should be noted that PW106 outputs analog video signal and the main transport mode is difference transport mode. Therefore, when maintenance, not only '+' signal but also '-' signal of all video channels should be checked.

4、Flow of audio signal process:

Most of audio signals are processed on I/O board, while SCALER board only processes the audio signal from HDMI. Because HDMI accepts the HD digital signal input, its audio input should be digital signal, which is switched into analog audio signal via WM8761. Then the processed analog audio signal is sent to IO board for amplifying.

5、Flow of main system program

The loading program of PW106 is saved in the 8M flash chip. If the flash chip is destroyed, TV can't be powered on and logo can't be displayed.

The program upgrading of FLASH can be done via the upgrading port of SCALER board or IO board, as long as the power supply and FLASH and PW106 are normal. It has nothing to do with DDR chip.

The running of PW106 depends on two DDR chips. If part of DDR circuit is abnormal, then TV can be powered on and logo can be displayed, but TV doesn't accept any IR order once logo disappears.

6、Some other controls

For LCD PANEL, besides PW106 transporting LVDS signal to PANEL, it also: 1/. suppliers power (LVDSVDD) to signal port of PANEL. The voltage is 5V or 12V, which is up to the PANEL requirement; 2/. Controls the backlight of PANEL: BKL-ON/OFF, which controls the On/Off of backlight of PANEL (above 1V=On, below 1V=Off), while BRT-ADJ controls the brightness of backlight.

When TV can't display, it should be checked first if the backlight is on. If the backlight is on, then check if LVDSVDD has voltage. If no voltage, then it is the reason that the drive tube of voltage is destroyed. If LVDSVDD is OK, then please check LVDS cable.

PW106 checks the status of earphone socket. When the earphone is inserted into the earphone socket, the EAR-INT signal sent to PW106 will be high level. Then, PW106 will low down STANDBY signal, which connect the signal of control end of amplifier chip LX1722. When the STANDBY signal is high level, then amplifier works; otherwise, the amplifier enters the standby mode.

It should be noted that sometimes if the connector between mini I/O board and IO board is lax or pulled off, then EAR-INT will be high level and speaker has no voice output. Therefore, if maintain the TV with no-voice-output speaker, please

check if the EAR-INT signal is abnormal, which is in order to avoid wasting time on checking amplifier.

Regarding the connecting with IO board, it is important that I2C signal connects with MCU （MCU-INT、SCL—MCU、SDA—MCU）. If there is any problem with the connecting, then the key and remote control work out.

5.3、Work Principle of I/O board

1、I/O board mainly: inputs & outputs AV signal, switches audio and video, amplifies audio, control mini MCU and process key.

2、I/O board can be divided into three modules, a) audio module, to process, switch and amplify audio; b) video module, to input & output video switch; c) mini MCU module. When maintenance, if no sound, then the audio module has problem; if no picture, then the video module has problem; if the remote control and keys work out, then the MCU module has problem under the circumstance that IR&KEY board is OK.

a)Audio module：is divided into small signal process and power amplification. Small signal can be separated into: left & right audio analog signal. Analog audio signal enters CX2069Q (UV401) via the following 7 channels: left & right audio channels of AV2 (S-VIDEO2), left & right audio signals of SCART1 & SCART2, left & right signals of YPbPr, left & right signals of VGA, left & right audio signals of HDMI sent by SCALER board and the audio signal switched from digital TUNER. The above audio signals are switched via CXA2069Q, and sent together with SIF signal from DVB board to TDA9875 (UV505) for processing. TDA9875 (UV505) mainly decoding the audio channel of SIF signal and control the volume. After processed by the chip, 4 routes of L & R signals are output from the output end of the chip. Among them, two routes are output from SCART1 & SCART2 after filtered by filter web; one is output from earphone after filtered and amplified by NJM4556; the last one is output by speaker after processed by NJW1137 (UV601) and amplified by TPA3100 (UV602).

During the whole process, UV401, UV601 and UV505 are controlled by I2C. If the audio trouble is caused by UV401 and UV601, connect the signal via lead from the input end of chip to output end to judge if the work is normal. If the video trouble is caused by UV401, please judge in the same way. In the whole audio channel, if audio output is normal, then MUTE signal is low level, otherwise, high level.

b) Video module：four routes CVBS, one route S-VIDEO, one route RGB signal and one route TV-CVBS signal. After switched by CXA2069Q (UV401), one route CVBS, one route S-VIDEO and one route RGB are input to the corresponding analog input ports of PW106 of SCALER board respectively. In addition, the YPbPr signal of I/O board input into the corresponding analog input port of PW106. The last route is VGA and HDMI. HDMI is directly input to the digital port of PW106, and the input VGA signal is sent to PI5V330Q (U1) and separated into two routes: one is input from the analog port of PW106, while one is input from the digital port of PW106 after switched by AD9985 (U6) into digital signal. In this way, PIP function can

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be realized by one video IC.

c) Mini MCU module: remote and key signals receiving. The remote and key signal receiving is dependent, but the processing modes in MCU are the same. If the remote control and key both work out, then judge if the power supply and peripheral circuit of MCU is normal. If only one works out, check if PIN21 of U202 IR or PIN26-28 has signal input.

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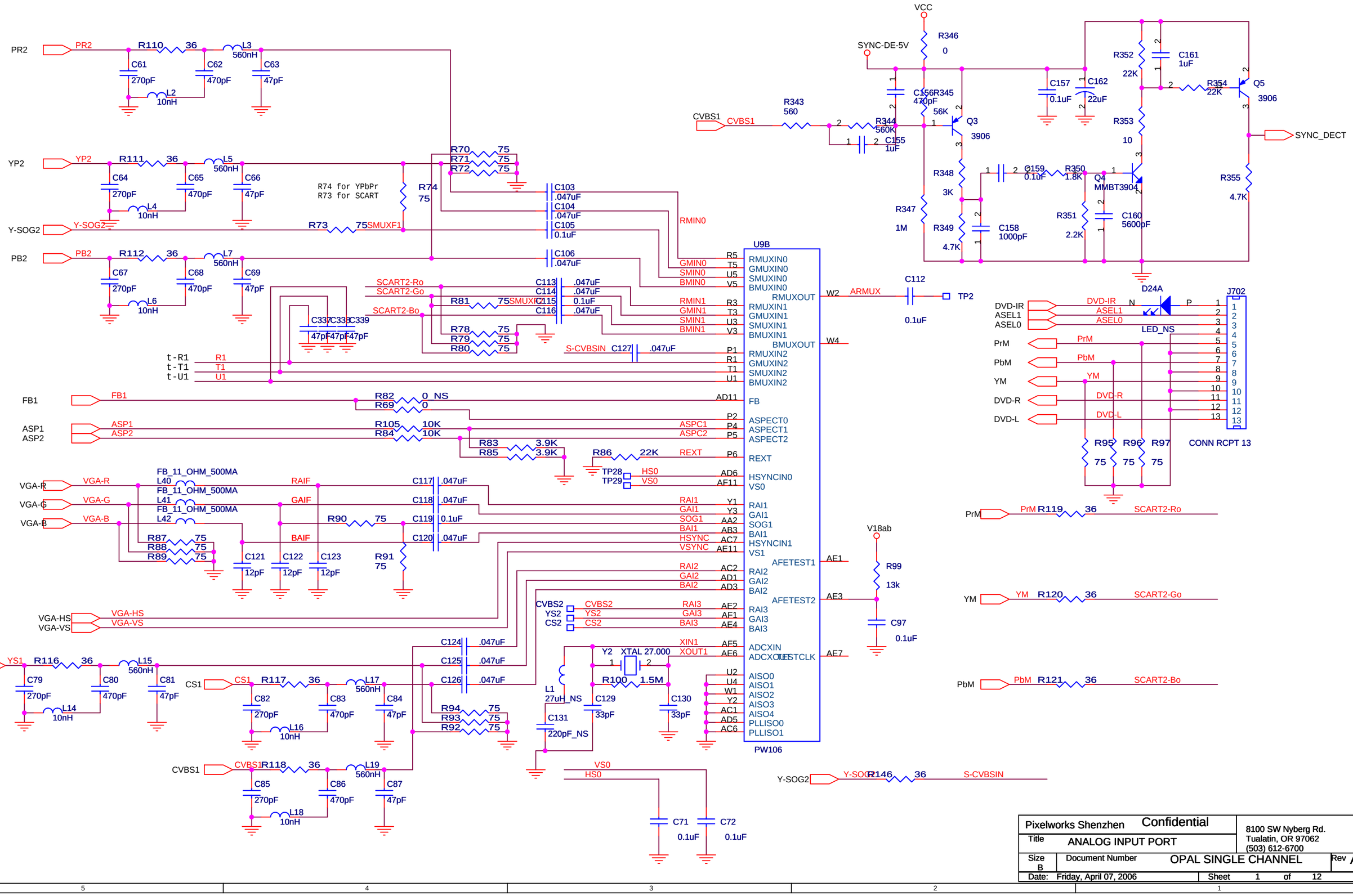
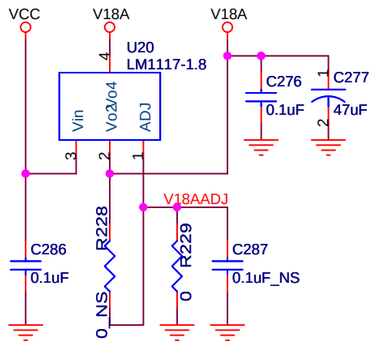
6.1.Schematic Diagrams

Scaler and I/O part for LC26T1E

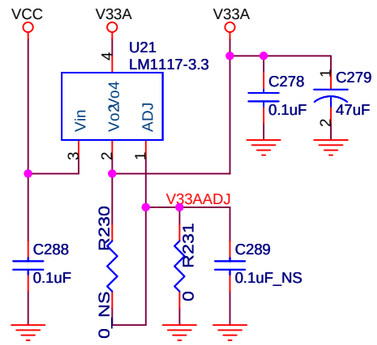
用SAMSUNG的屏时T5输出绕组线加粗
及R42．R43分别为4．7K和1K．输出
电压为14V．其他不变



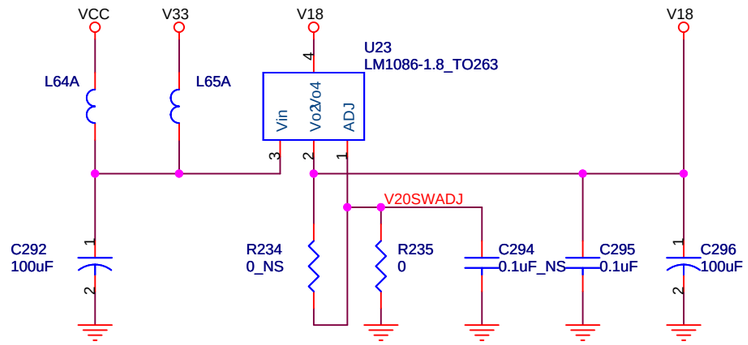
Pixelworks Shenzhen	Confidential	8100 SW Nyberg Rd. Tualatin, OR 97062 (503) 612-6700	
Title	ANALOG INPUT PORT		
Size B	Document Number	OPAL SINGLE CHANNEL	Rev A
Date: Friday, April 07, 2006		Sheet 1 of 12	



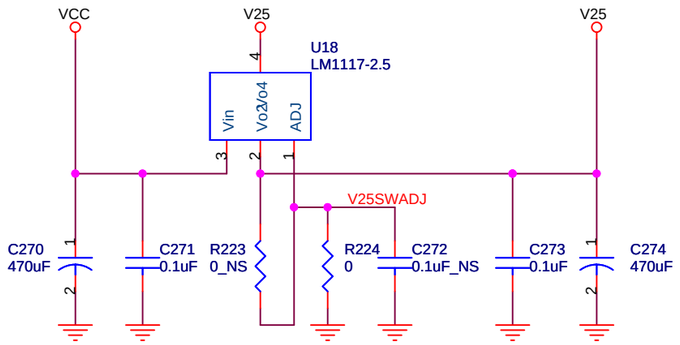
R228=4.7K, R229=1.8K, C287=0.1uf
if LM1117-ADJ is stuffed ;



R230=2.2K, R231=3.3K, C289=0.1uF
if LM1117-ADJ is stuffed ;

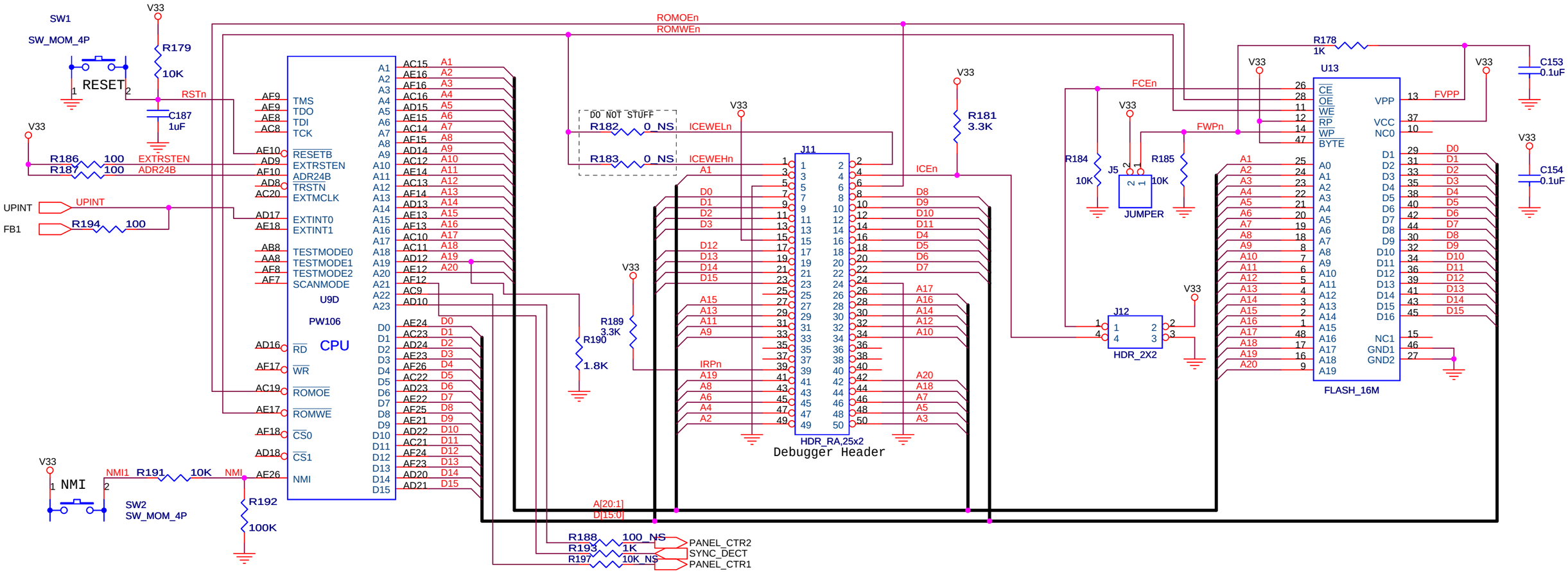


R234=3.3K, R235=1.8K, C294=0.1uF
if LM1086-ADJ is stuffed ;



R223=4.7K, R224=3.9K, C272=0.1uF
if LM1117-ADJ is stuffed ;

Pixelworks Shenzhen	Confidential		8100 SW Nyberg Rd. Tualatin, OR 97062 (503) 612-6700
Title	CORE POWER		
Size B	Document Number	OPAL SINGLE CHANNEL	Rev A
Date: Friday, April 07, 2006		Sheet 2 of 12	



Pixelworks Shenzhen	Confidential	8100 SW Nyberg Rd. Tualatin, OR 97062 (503) 612-6700	
Title: CPU			
Size: B	Document Number: OPAL SINGLE CHANNEL		Rev: A
Date: Tuesday, May 23, 2006	Sheet 3 of 12		

RMD[31:0]

Main Memory Port

U9G

PW106

DDR400_SDRAM_256M

U11

U12

RMA[12:0]

R174 22

R175 22

R176 1.00K

R177 1.00K

C150 0.1uF

C151 0.1uF

C152 0.1uF

C134 0.1uF

C135 0.1uF

C136 0.1uF

C137 0.1uF

C138 0.1uF

C139 0.1uF

C140 0.1uF

C141 0.1uF

C142 0.1uF

C143 0.1uF

C144 0.1uF

C145 0.1uF

C146 0.1uF

C147 0.1uF

C148 0.1uF

C149 0.1uF

R217 4.7k

U26 RC0603N

IC LP2996 DDR Termination SOP8

CB122 0.1uF CC0603N

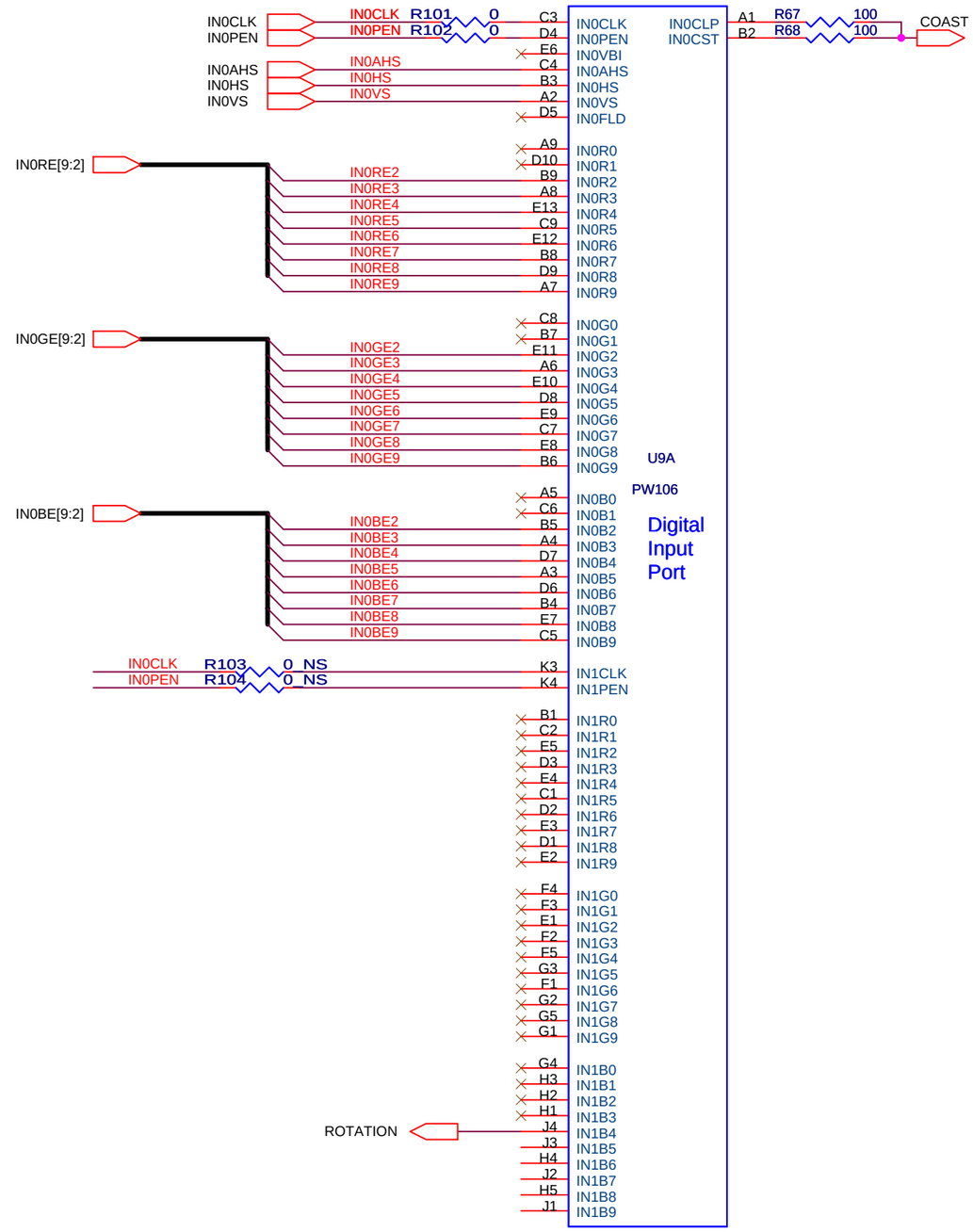
CB123 0.1uF CC0603N

CE35 47uF/16V THA-CPR250-600X1200N

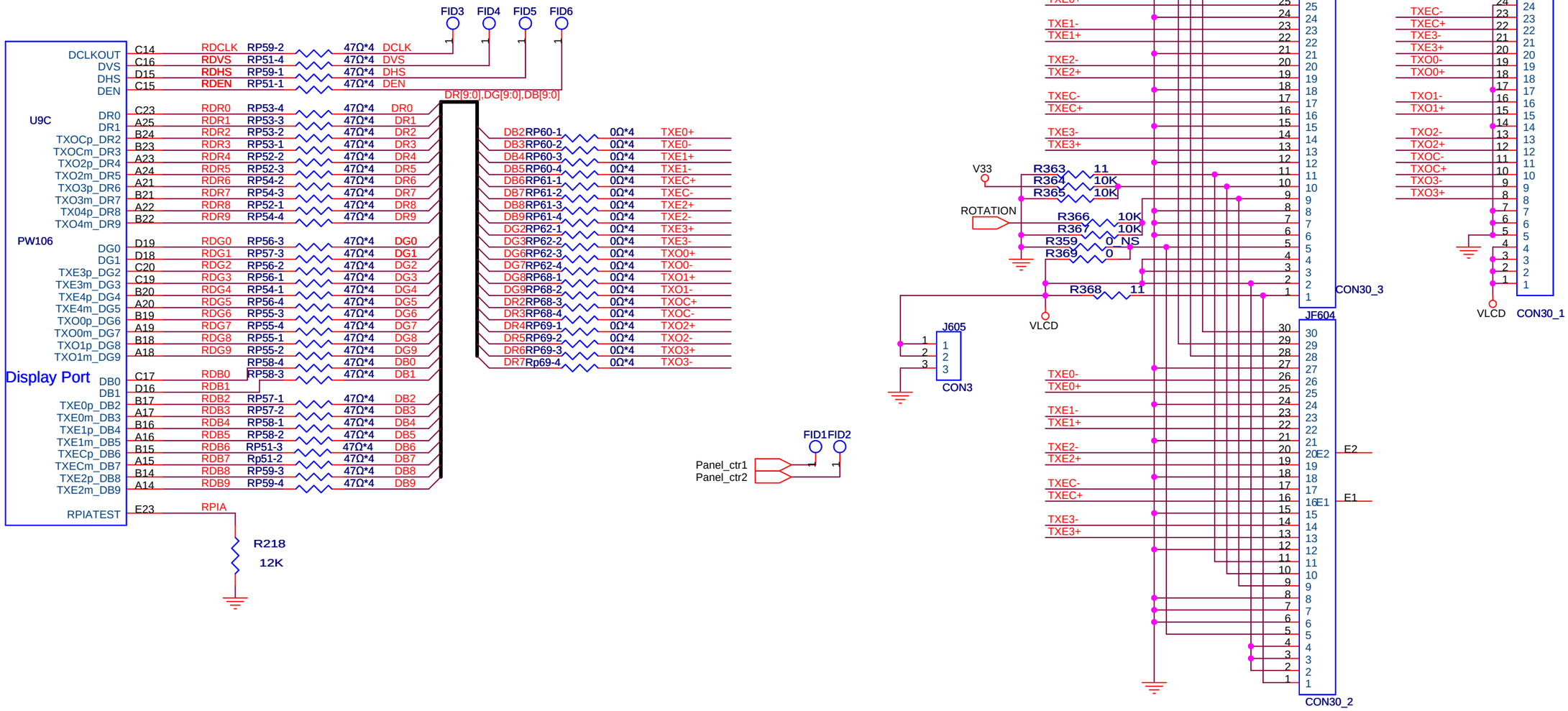
CE36 220uF/16V THA-CPR250-600X1200N

NC

Pixelworks Shenzhen	Confidential	8100 SW Nyberg Rd. Tualatin, OR 97062 (503) 612-6700	
Title: DDR SDRAM			
Size: B	Document Number: OPAL SINGLE CHANNEL		Rev: A
Date: Friday, April 07, 2006	Sheet 4 of 12		



Pixelworks Shenzhen	Confidential	8100 SW Nyberg Rd. Tualatin, OR 97062 (503) 612-6700	
Title	DIGITAL INPUT PORT and I/O INPUT		
Size B	Document Number OPAL SINGLE CHANNEL		Rev A
Date: Friday, April 07, 2006	Sheet 5 of 12		



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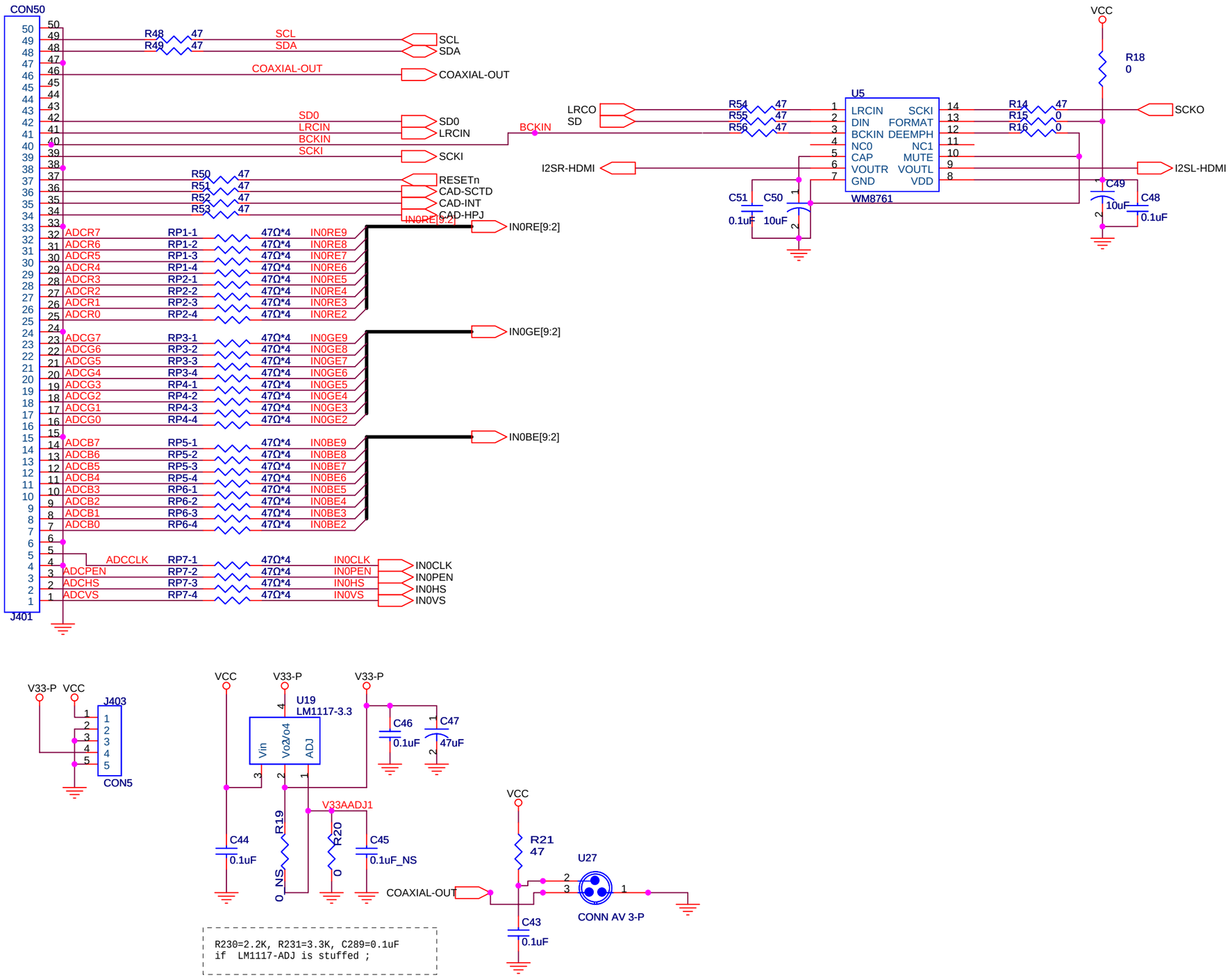
Date: Friday, April 07, 2006	Sheet 6 of 12		



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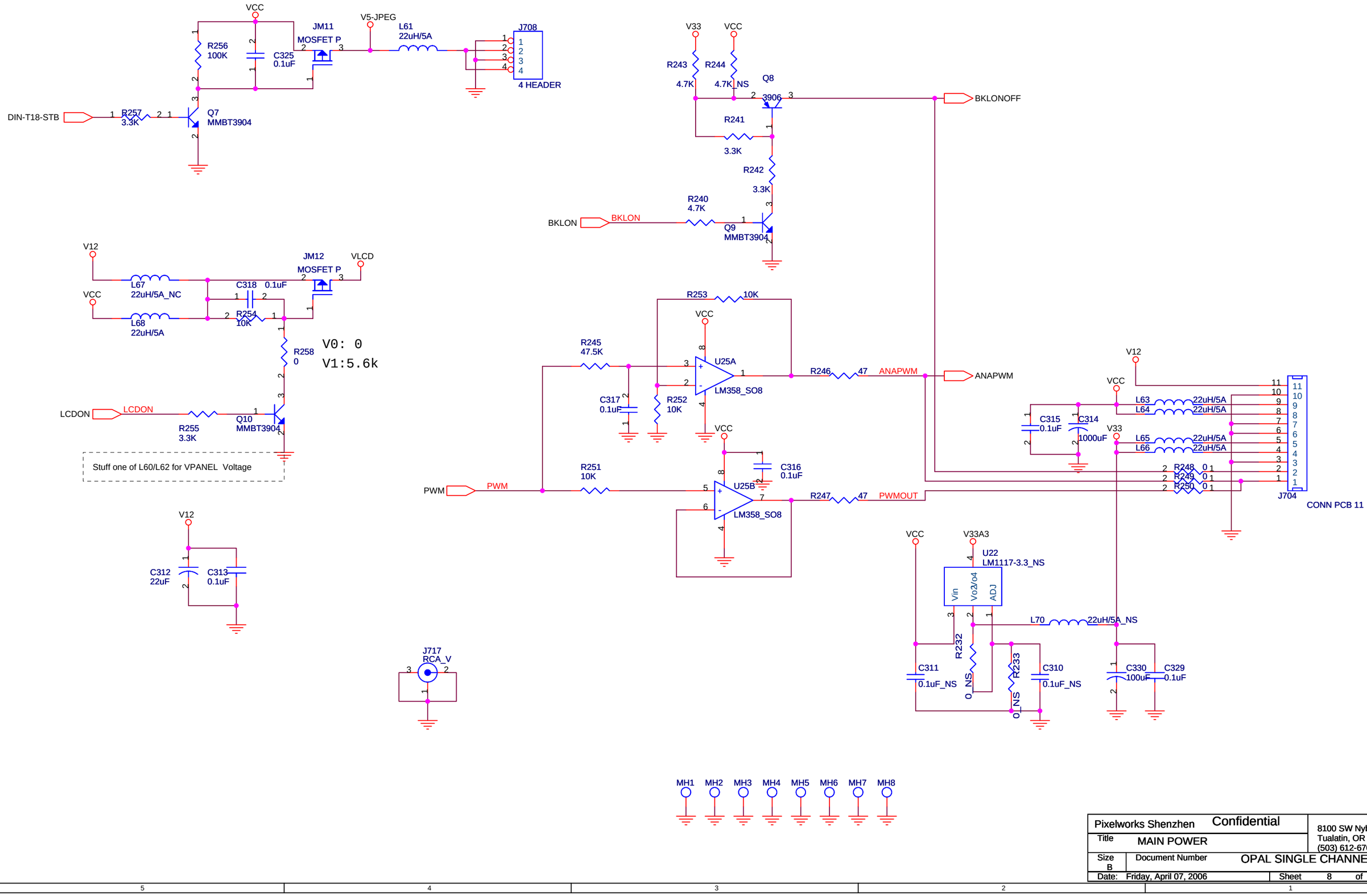
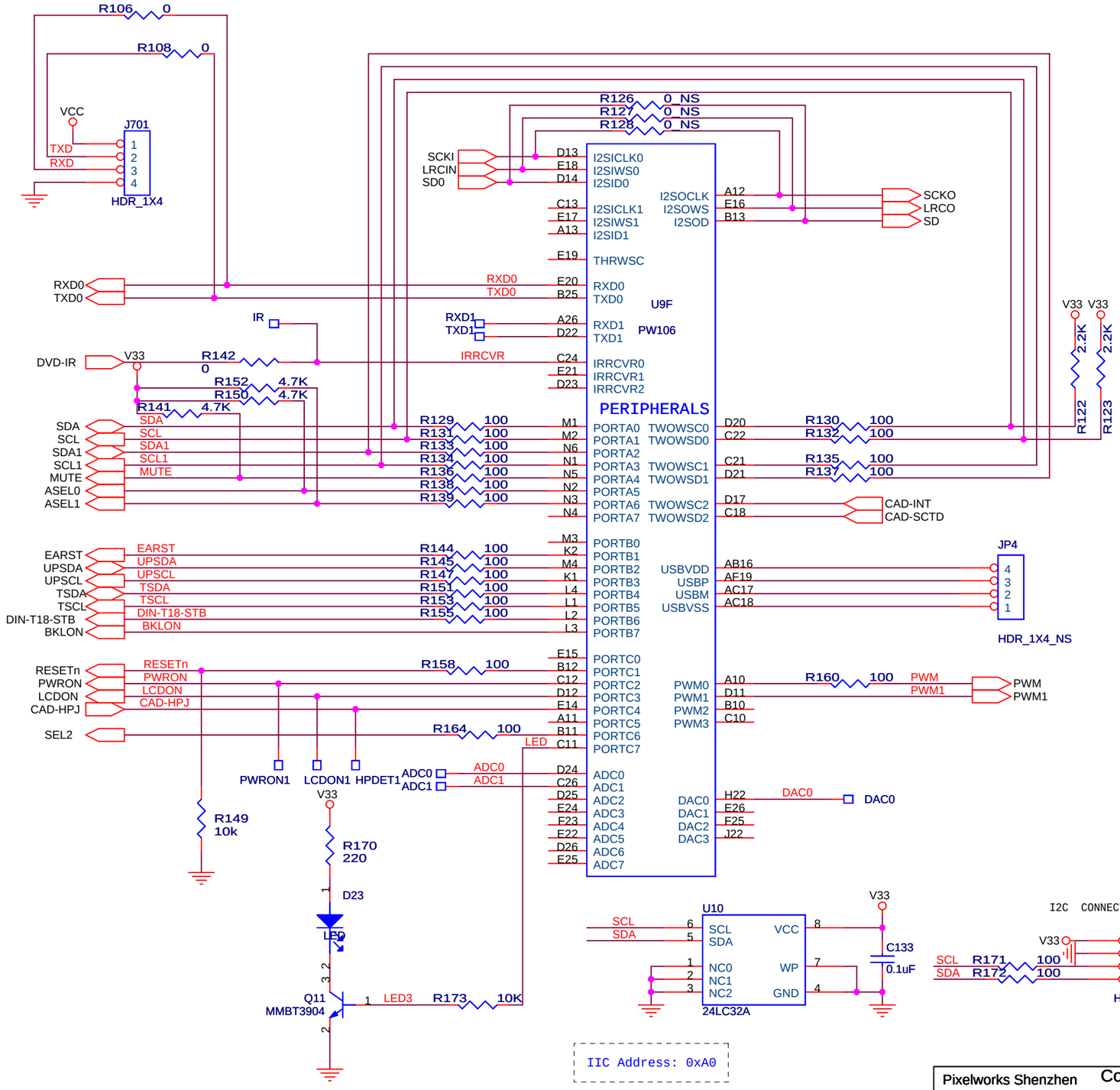
Size B	Document Number	OPAL SINGLE CHANNEL	Rev A
Date: Tuesday, May 23, 2006		Sheet 7 of 12	



Pixelworks Shenzhen	Confidential	8100 SW Nyberg Rd. Tualatin, OR 97062 (503) 612-6700
Title: MAIN POWER		
Size: B	Document Number: OPAL SINGLE CHANNEL	Rev: A
Date: Friday, April 07, 2006	Sheet 8 of 12	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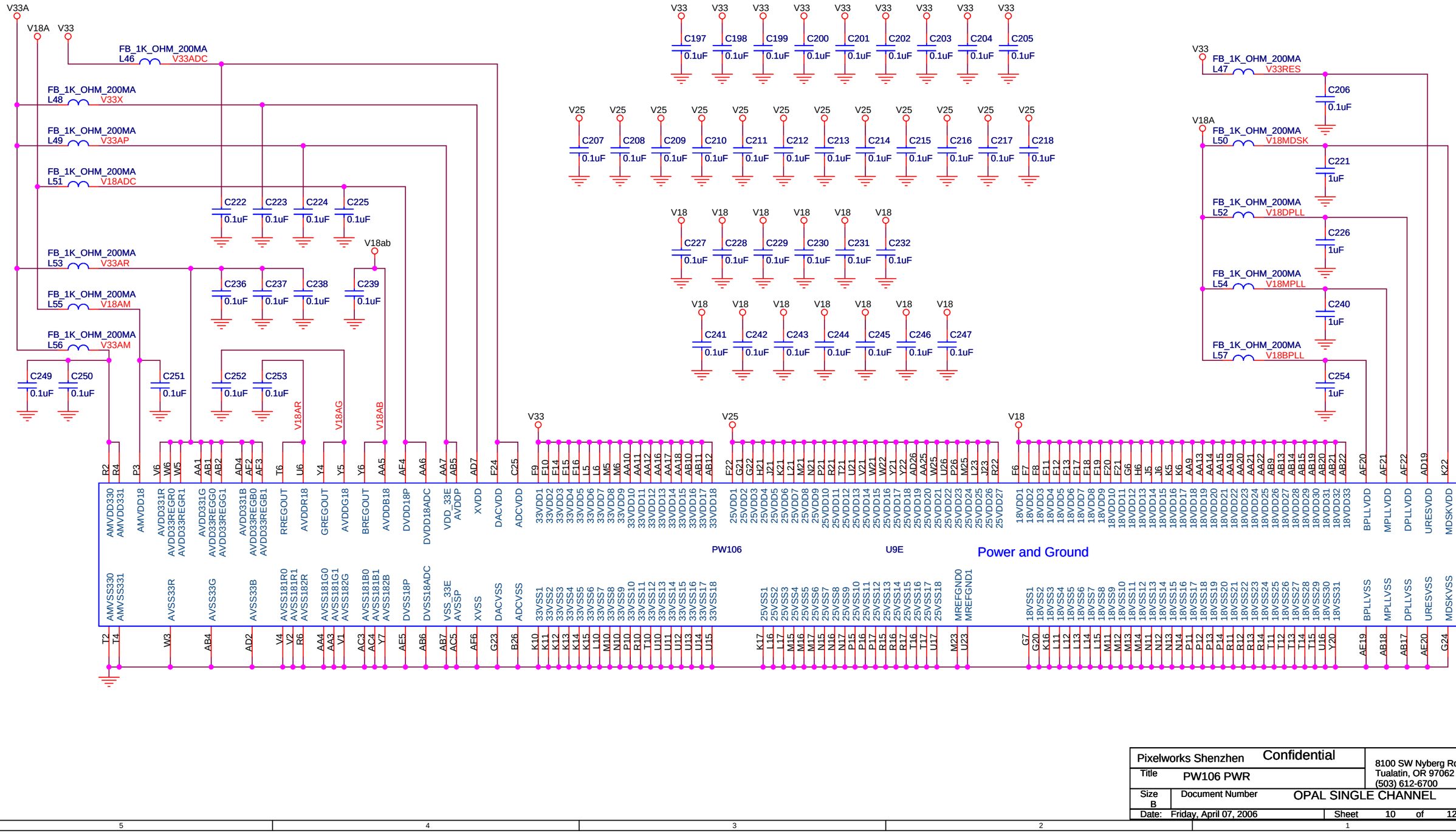
R108 0
VCC
J701
TXD
RXD
1
2
3
4
HDR_1X4
R126 0_NS
R127 0_NS
R128 0_NS
SCKI
LRCIN
SD0
D13
E18
D14
I2SICLK0
I2SIWS0
I2SID0
I2SOCLK
I2SOWS
I2SOD
A12
E16
B13
SCKO
LRCO
SD
C13
E17
A13
I2SICLK1
I2SIWS1
I2SID1
E19
THRWSC
RXD0
TXD0
RXD0
TXD0
E20
B25
RXD0
TXD0
U9F
RXD1
TXD1
A26
D22
RXD1
TXD1
PW106
IR
DVD-IR
V33
R142
0
IRRCVR
C24
E21
D23
IRRCVR0
IRRCVR1
IRRCVR2
R152 4.7K
R150 4.7K
R141 4.7K
PERIPHERALS
SDA
SCL
SDA1
SCL1
MUTE
ASEL0
ASEL1
R129 100
R131 100
R133 100
R134 100
R136 100
R138 100
R139 100
M1
M2
N6
N1
N5
N2
N3
N4
PORTA0
PORTA1
PORTA2
PORTA3
PORTA4
PORTA5
PORTA6
PORTA7
TWOWSC0
TWOWSD0
TWOWSC1
TWOWSD1
TWOWSC2
TWOWSD2
D20
C22
C21
D21
D17
C18
R130 100
R132 100
R135 100
R137 100
CAD-INT
CAD-SCTD
V33
V33
2.2K
2.2K
R122
R123
EARST
UPSDA
UPSCL
TSDA
TSCL
DIN-T18-STB
BKLON
R144 100
R145 100
R147 100
R151 100
R153 100
R155 100
M3
K2
M4
K1
L4
L1
L2
L3
PORTB0
PORTB1
PORTB2
PORTB3
PORTB4
PORTB5
PORTB6
PORTB7
USBVDD
USBP
USBM
USBVSS
AB16
AF19
AC17
AC18
JP4
4
3
2
1
HDR_1X4_NS
RESETn
PWRON
LCDON
CAD-HPJ
SEL2
R158 100
R164 100
LED
E15
B12
C12
D12
E14
A11
B11
C11
PORTC0
PORTC1
PORTC2
PORTC3
PORTC4
PORTC5
PORTC6
PORTC7
PWM0
PWM1
PWM2
PWM3
A10
D11
B10
C10
R160 100
PWM
PWM1
PWM
PWM1
PWRON1
LCDON1
HPDET1
ADC0
ADC1
D24
C26
D25
E24
F23
E22
D26
E25
ADC0
ADC1
ADC2
ADC3
ADC4
ADC5
ADC6
ADC7
DAC0
DAC1
DAC2
DAC3
H22
E26
F25
J22
DAC0
DAC0
R149
10k
V33
R170
220
D23
LED
Q11
MMBT3904
LED3
R173 10K
U10
SCL
SDA
6
5
SCL
SDA
VCC
WP
GND
8
7
4
NC0
NC1
NC2
1
2
3
24LC32A
C133
0.1uF
V33
I2C CONNECTOR
JP6
V33
SCL
SDA
R171 100
R172 100
1
2
3
4
HDR_1X4
IIC Address: 0xA0
Pixelworks Shenzhen
Confidential
8100 SW Nyberg Rd.
Tualatin, OR 97062
(503) 612-6700
Title
PERIPHERALS
Size
B
Document Number
OPAL SINGLE CHANNEL
Rev A
Date: Friday, April 07, 2006
Sheet 9 of 12



Pixelworks Shenzhen	Confidential		8100 SW Nyberg Rd. Tualatin, OR 97062 (503) 612-6700
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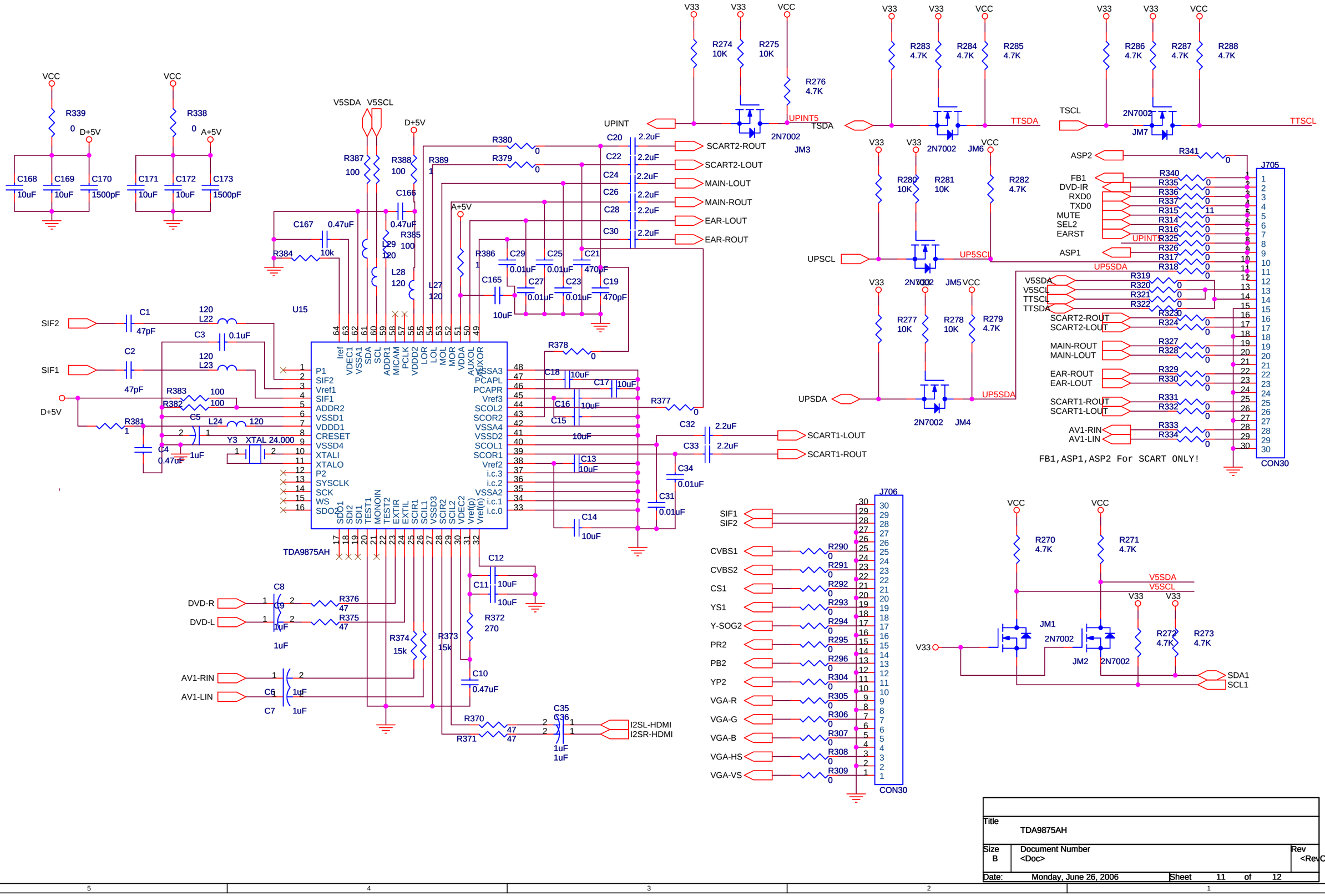
Size B	Document Number	OPAL SINGLE CHANNEL	Rev A
Date: Friday, April 07, 2006		Sheet 10 of 12	



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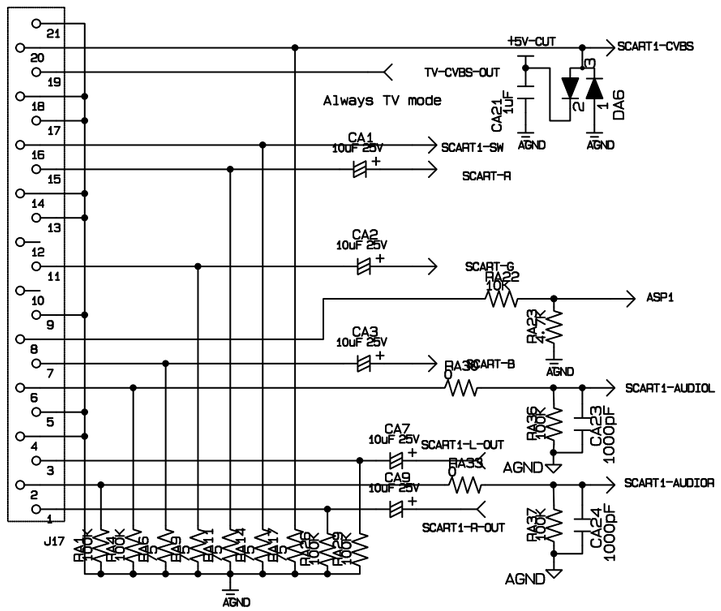
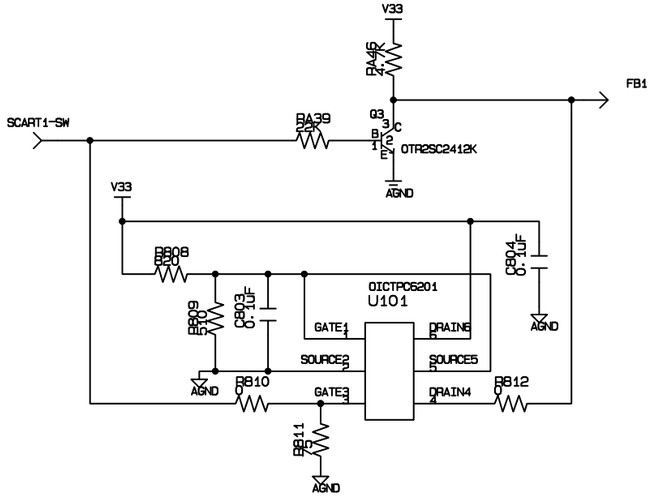
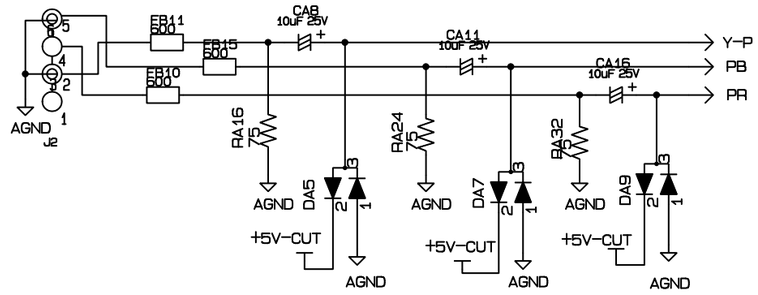
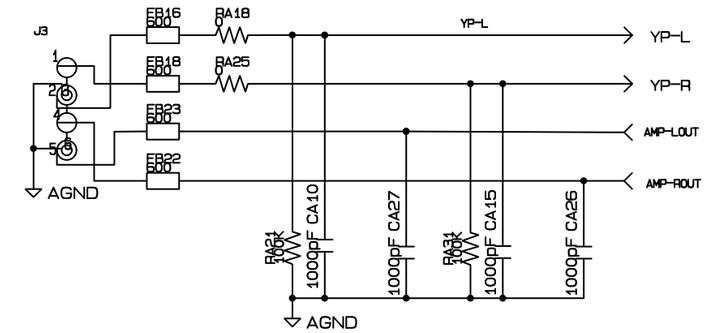
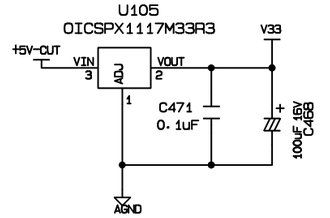
Size B	Document Number <Doc>	Rev <RevCode>
Date: Monday, June 26, 2006	Sheet 11 of 12	

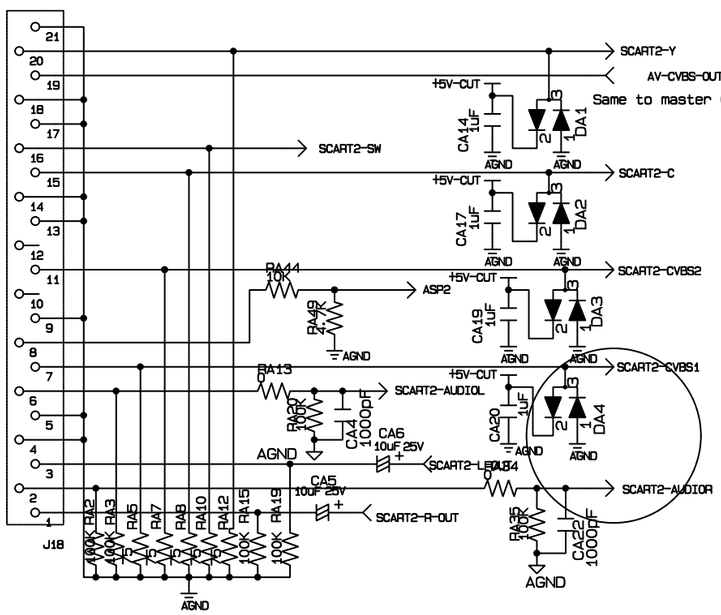




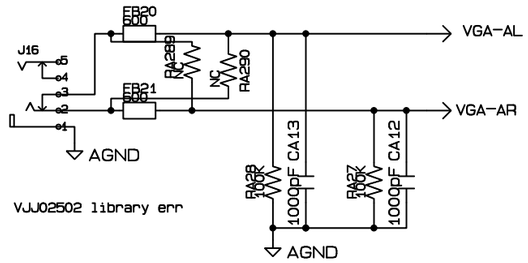




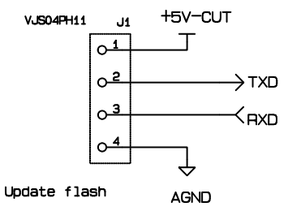




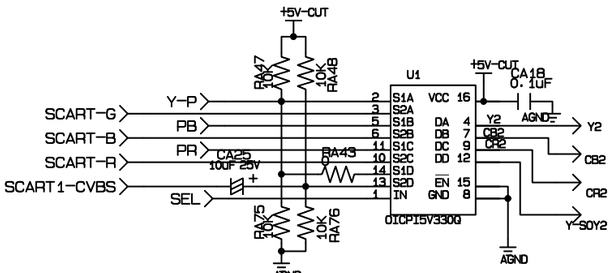
SCART2-CVBS1 and SCART2-CVBS2 just for Scart of Japan



VJU02502 library err



Update flash



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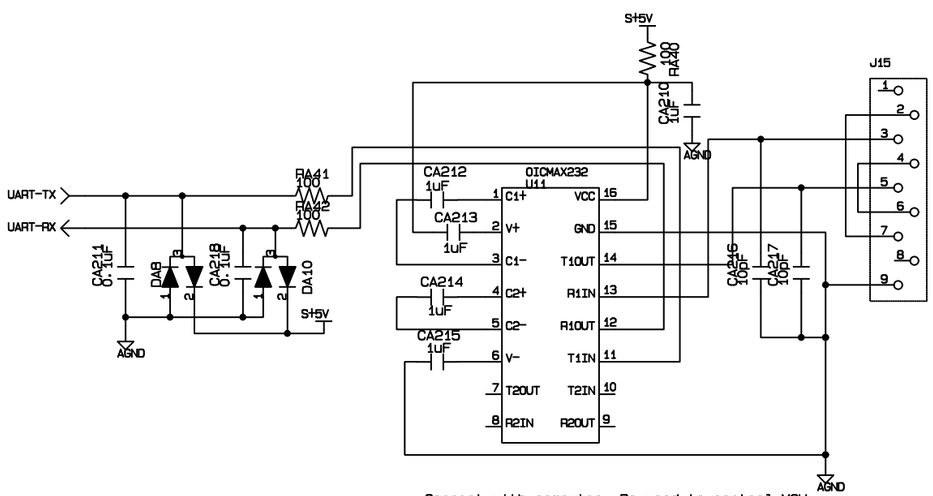

Connect with computer. Be used to control MCU

2006.05.14
TVL1517-OPAL

	ANDESMIC CO.,LTD		
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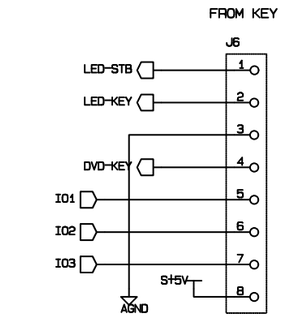
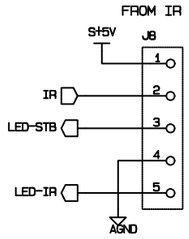
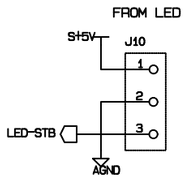
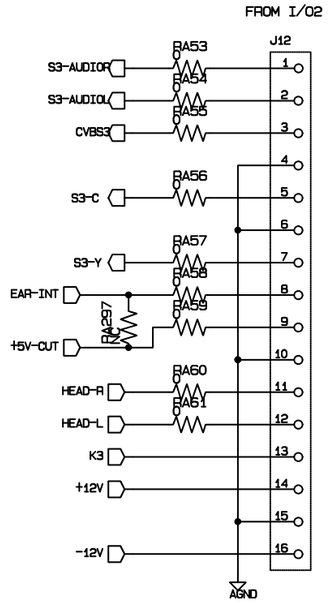
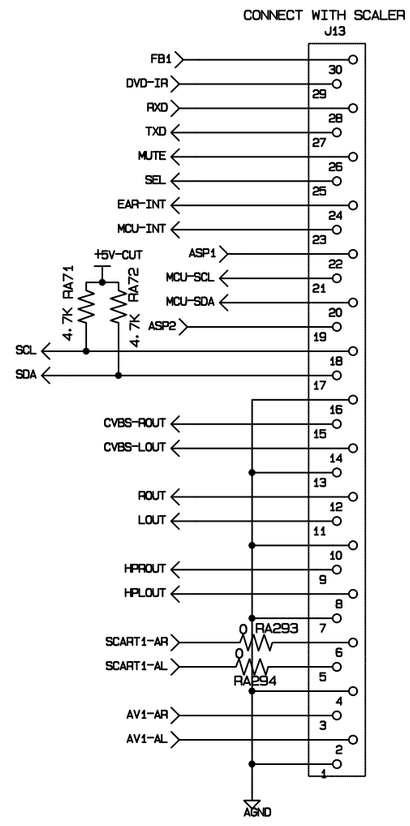
	Block Tittle	PROCESS	
Designer:	Size:	Document No.	Version:
	Date:	Sheet: 1 of 4	

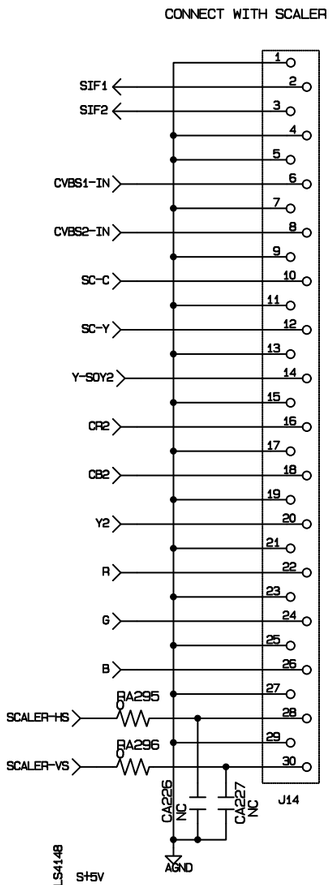


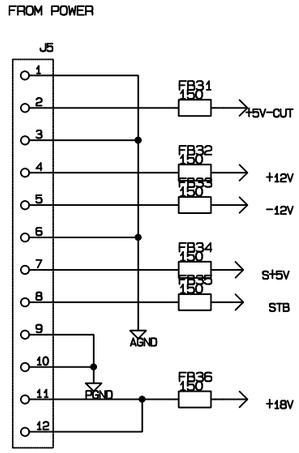


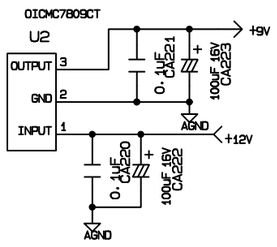


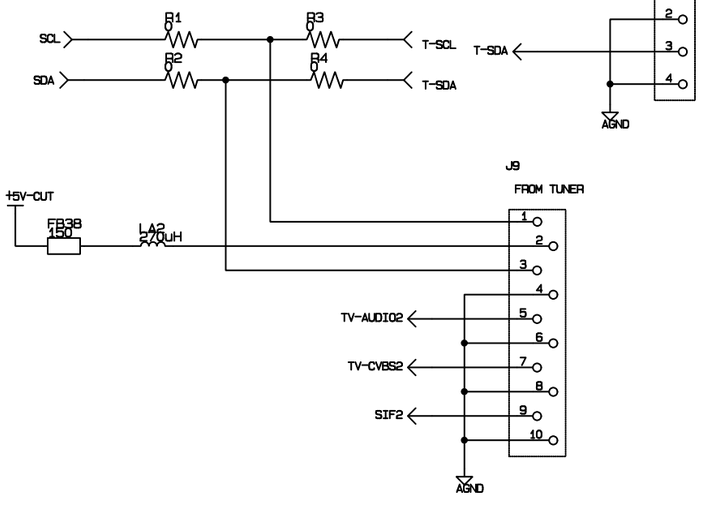


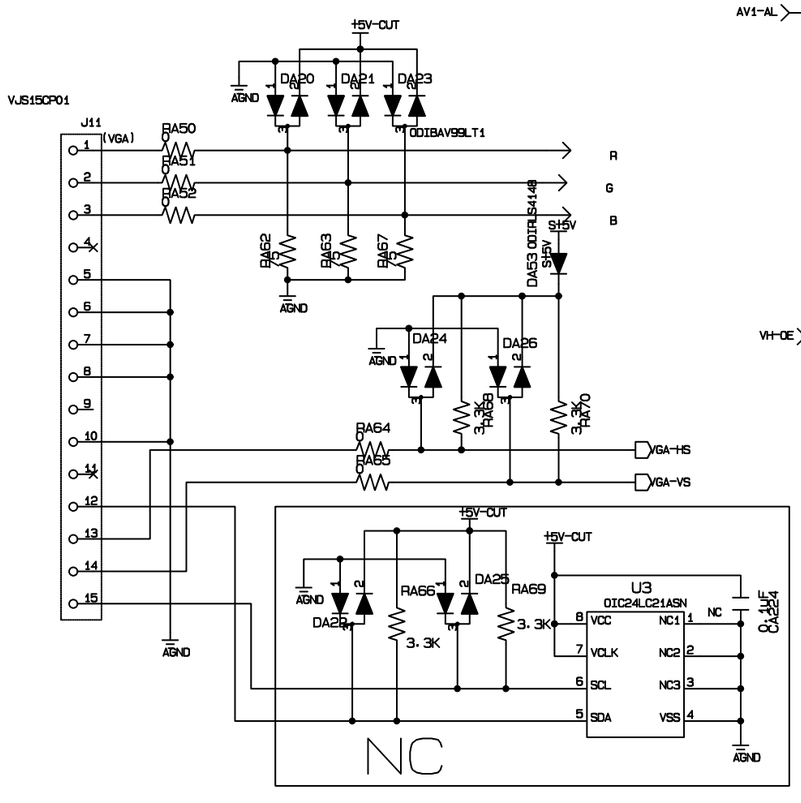


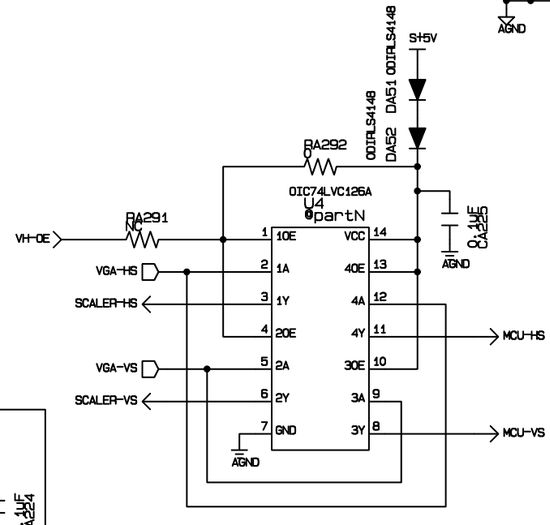










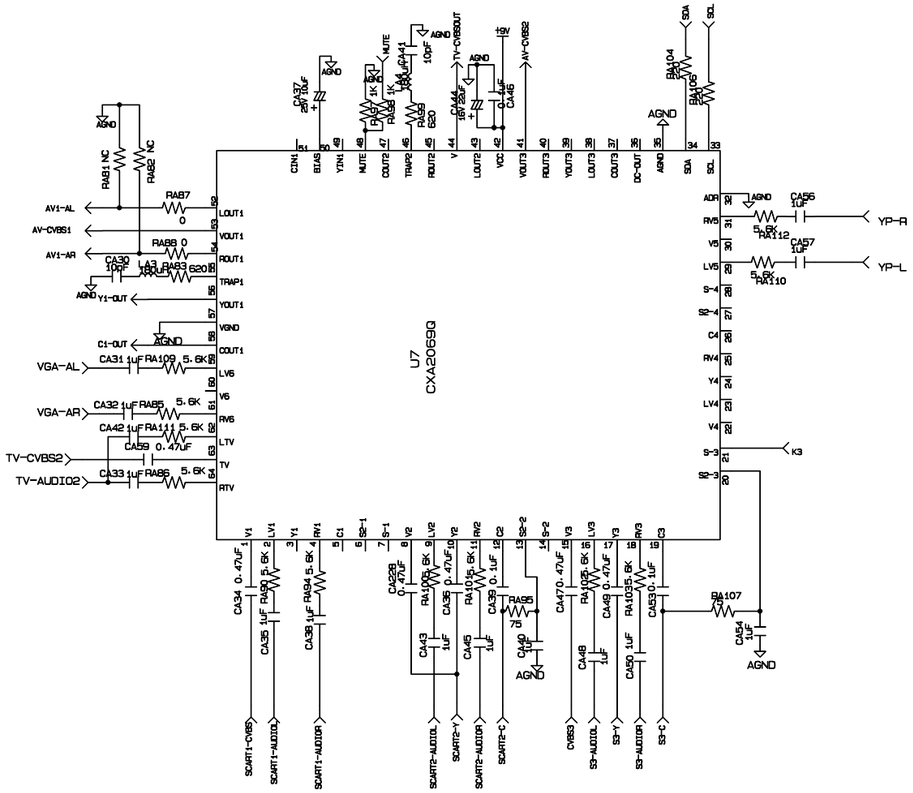


Control On/Off of HS and VS

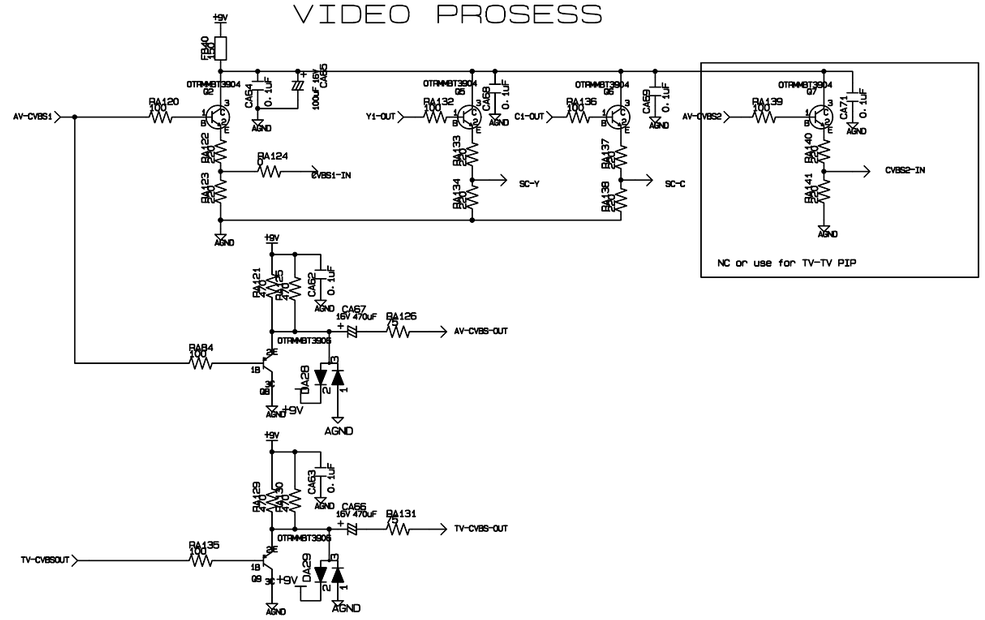
2006.05.14
TVL1517-OPAL

	ANDISONIC CO.,LTD	
	Board Tittle	CONNECT JACK
	Block Tittle	PROCESS
Designer:	Size:	Document No. / Version:
	Date:	Sheet: 2 of 4

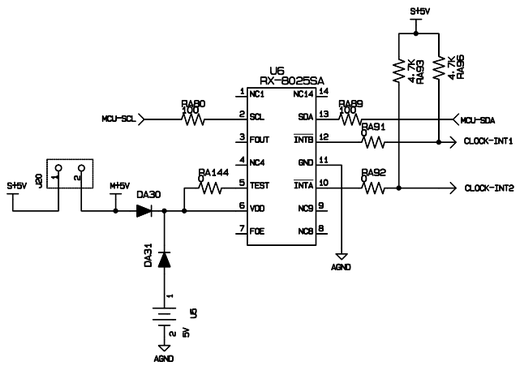
VIDEO&AUDIO SELECT



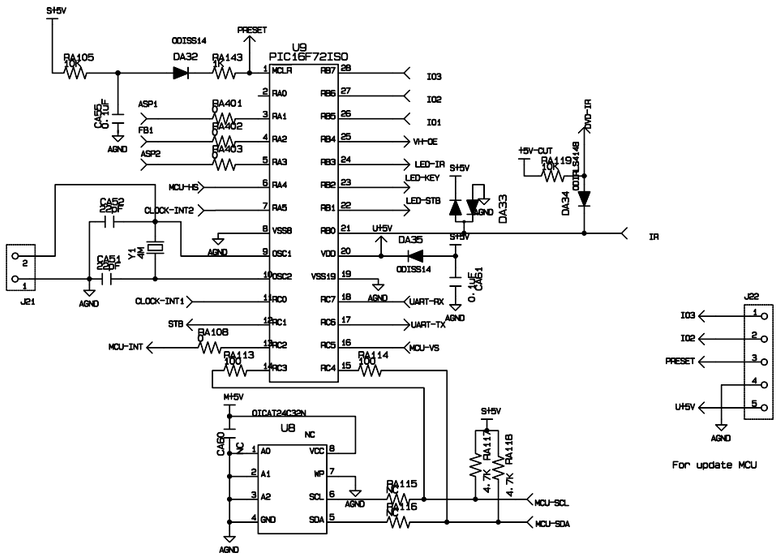
VIDEO PROSESS



TIME CONTROL



POWER MCU



For update MCU

2006.05.14
TVL1517-OPAL

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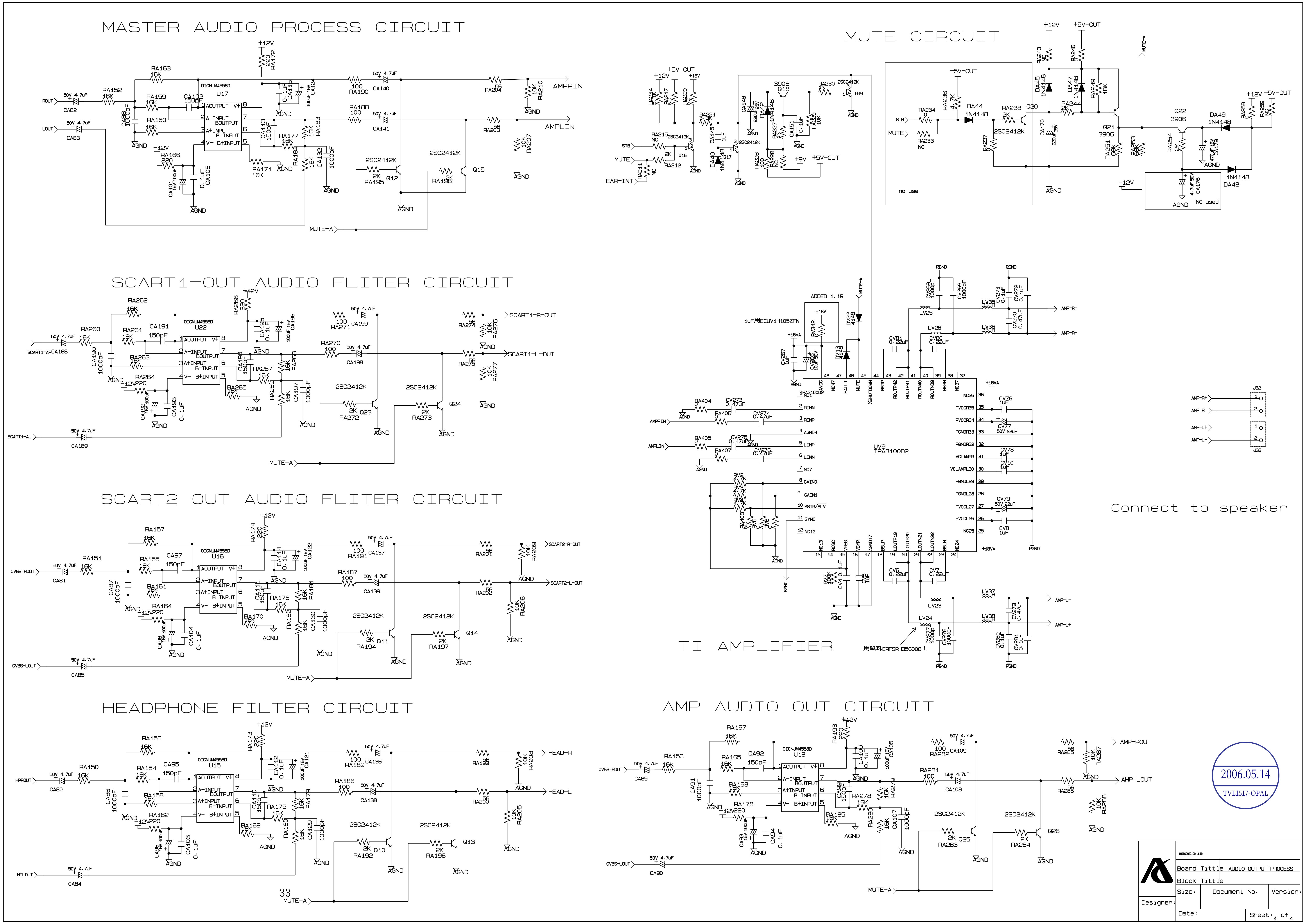
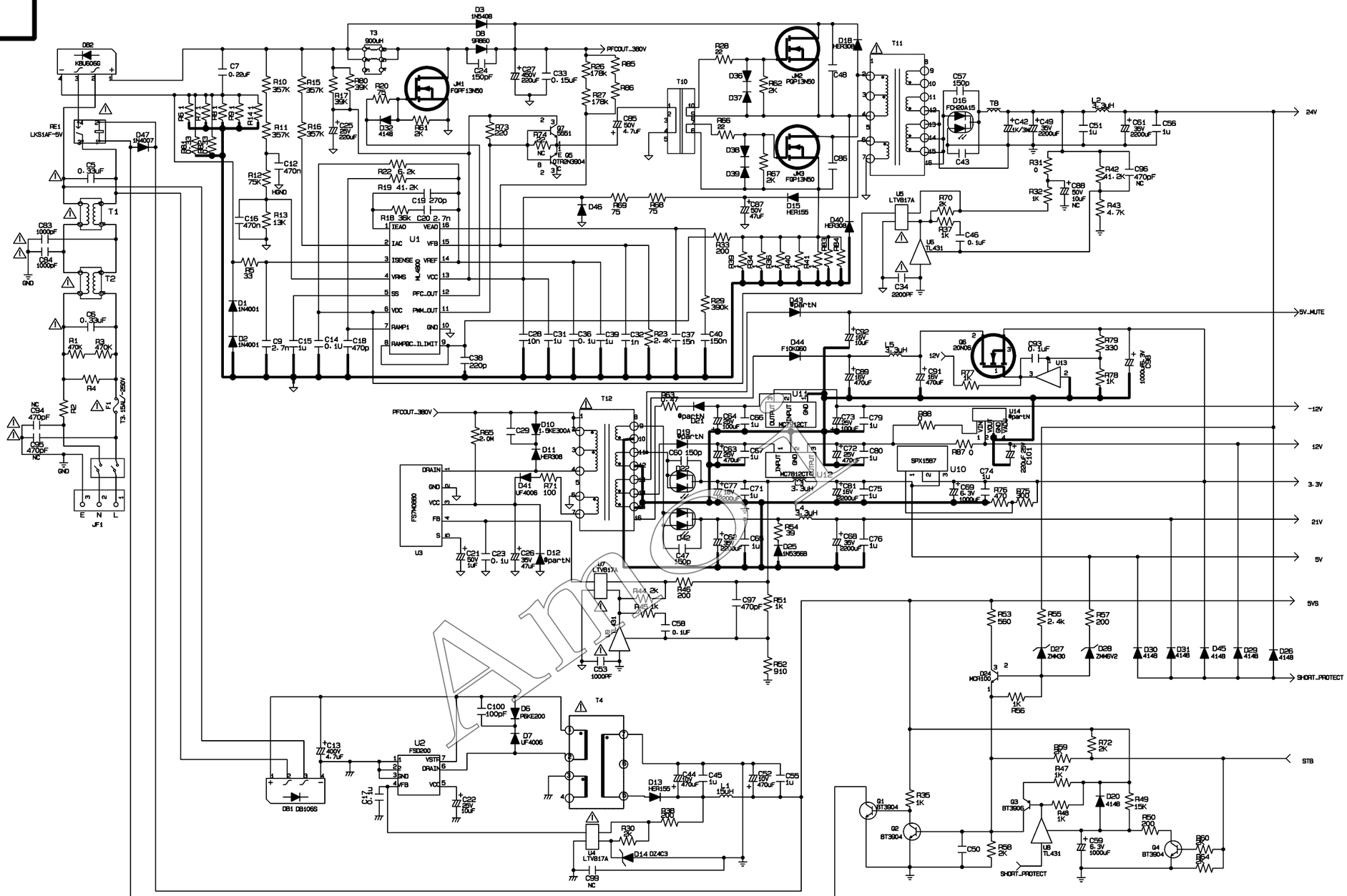
	Block Tittle:		
Designer:	Size:	Document No.	Version:
	Date:		Sheet: 3 of 4


MASTER AUDIO PROCESS CIRCUIT
MUTE CIRCUIT
SCART1-OUT AUDIO FLITER CIRCUIT
SCART2-OUT AUDIO FLITER CIRCUIT
HEADPHONE FILTER CIRCUIT
TI AMPLIFIER
AMP AUDIO OUT CIRCUIT
Connect to speaker
no use
NC used
ADDED 1.19
1uF用ECUV1H105ZFN
用磁珠ERFSRH356008！
UV9 TPA3100D2
33
2006.05.14
TVL1517-OPAL
AMOISONIC CO.,LTD
Board Tittle AUDIO OUTPUT PROCESS
Block Tittle
Size:
Document No.
Version:
Designer:
Date:
Sheet: 4 of 4

6.2.Schematic Diagrams

Scaler and I/O part for LC32T1E/LC37T1E/LC42T1E


U1
U2
U3
U4
U5
U6
U7
U8
U10
U11
U12
U13
U14
T1
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T4
T8
T10
T11
T12
JM1
JM2
JM3
JF1
RE1
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
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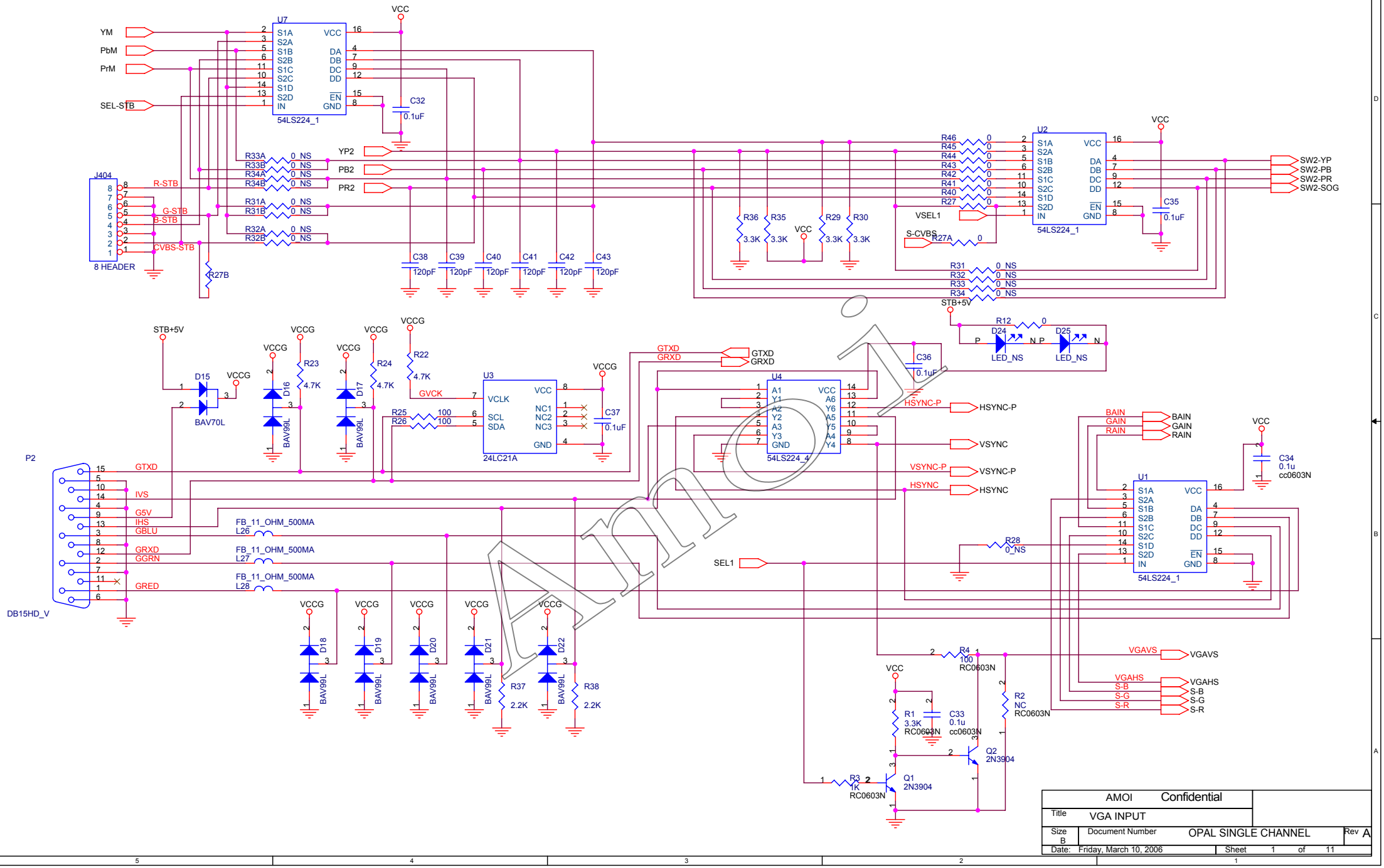
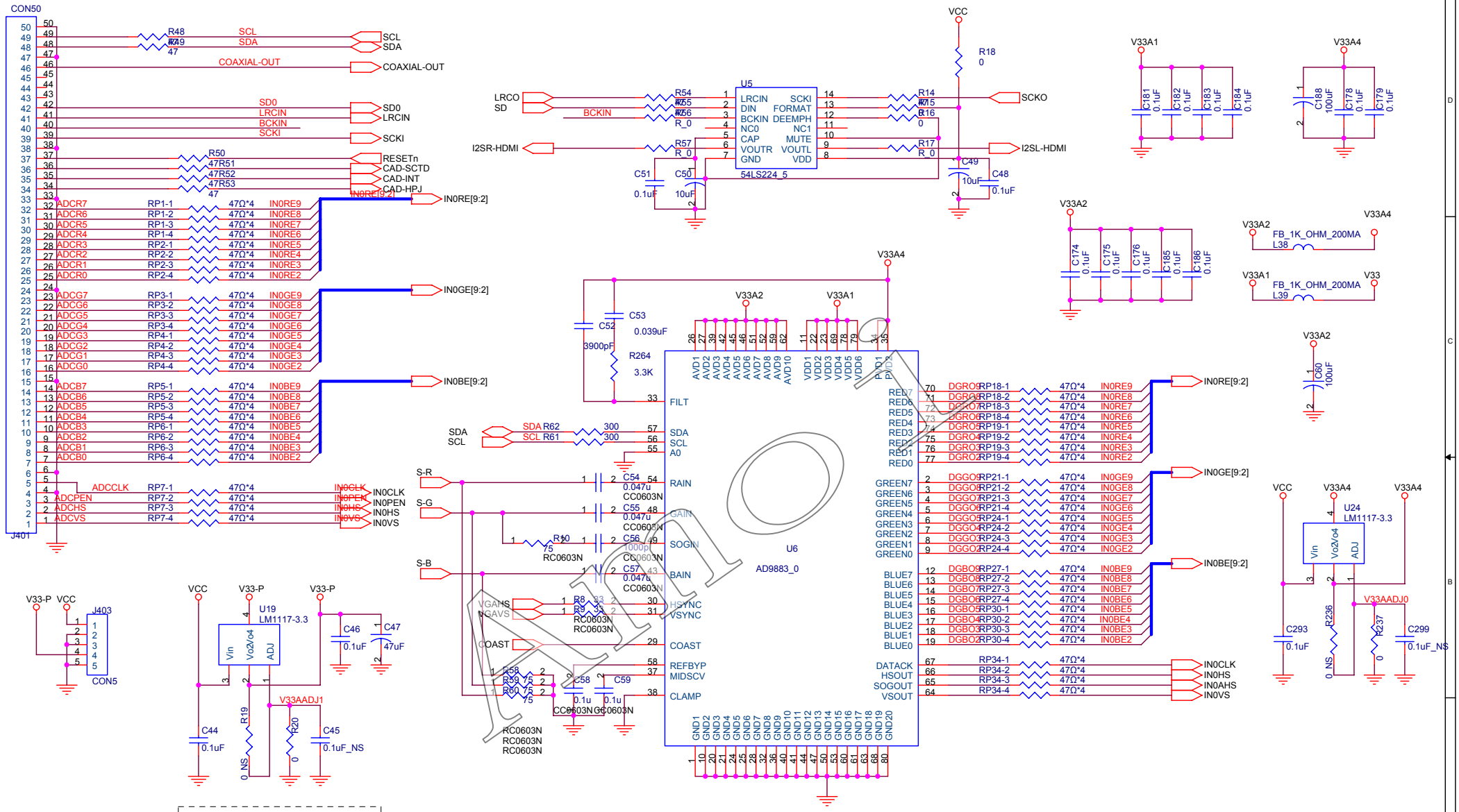


AMOI

AMOI	Confidential		
Title	VGA INPUT		
Size B	Document Number	OPAL SINGLE CHANNEL	Rev A
Date: Friday, March 10, 2006		Sheet 1 of 11	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J401
R48
SCL
SDA
COAXIAL-OUT
SD0
LRCIN
BCKIN
SCKI
R50
47R51
47R52
47R53
RESETn
CAD-SCTD
CAD-INT
CAD-HPJ
IN0RE[9:2]
ADCR7
ADCR6
ADCR5
ADCR4
ADCR3
ADCR2
ADCR1
ADCR0
RP1-1
RP1-2
RP1-3
RP1-4
RP2-1
RP2-2
RP2-3
RP2-4
47Ω*4
IN0RE9
IN0RE8
IN0RE7
IN0RE6
IN0RE5
IN0RE4
IN0RE3
IN0RE2
IN0GE[9:2]
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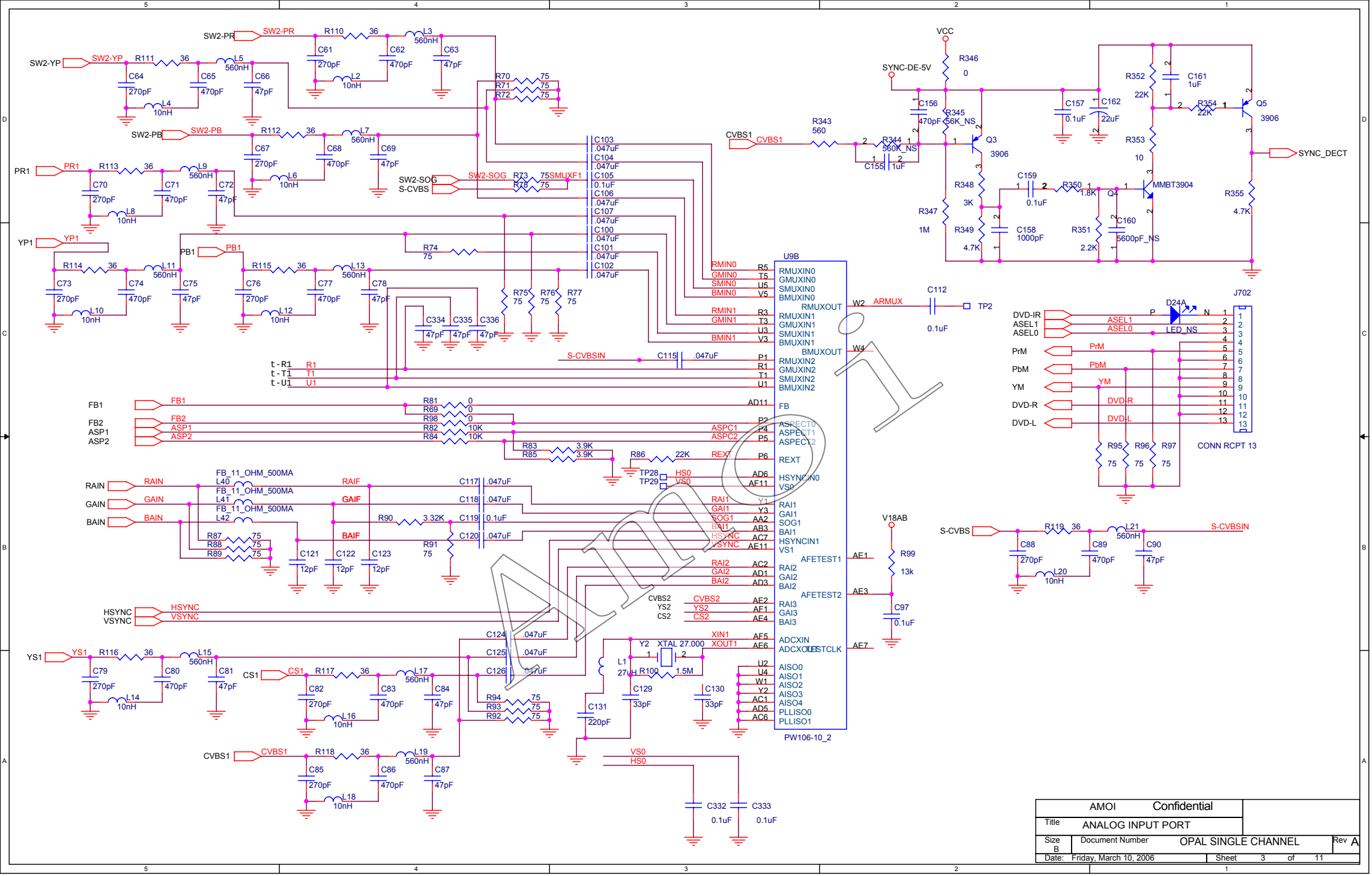
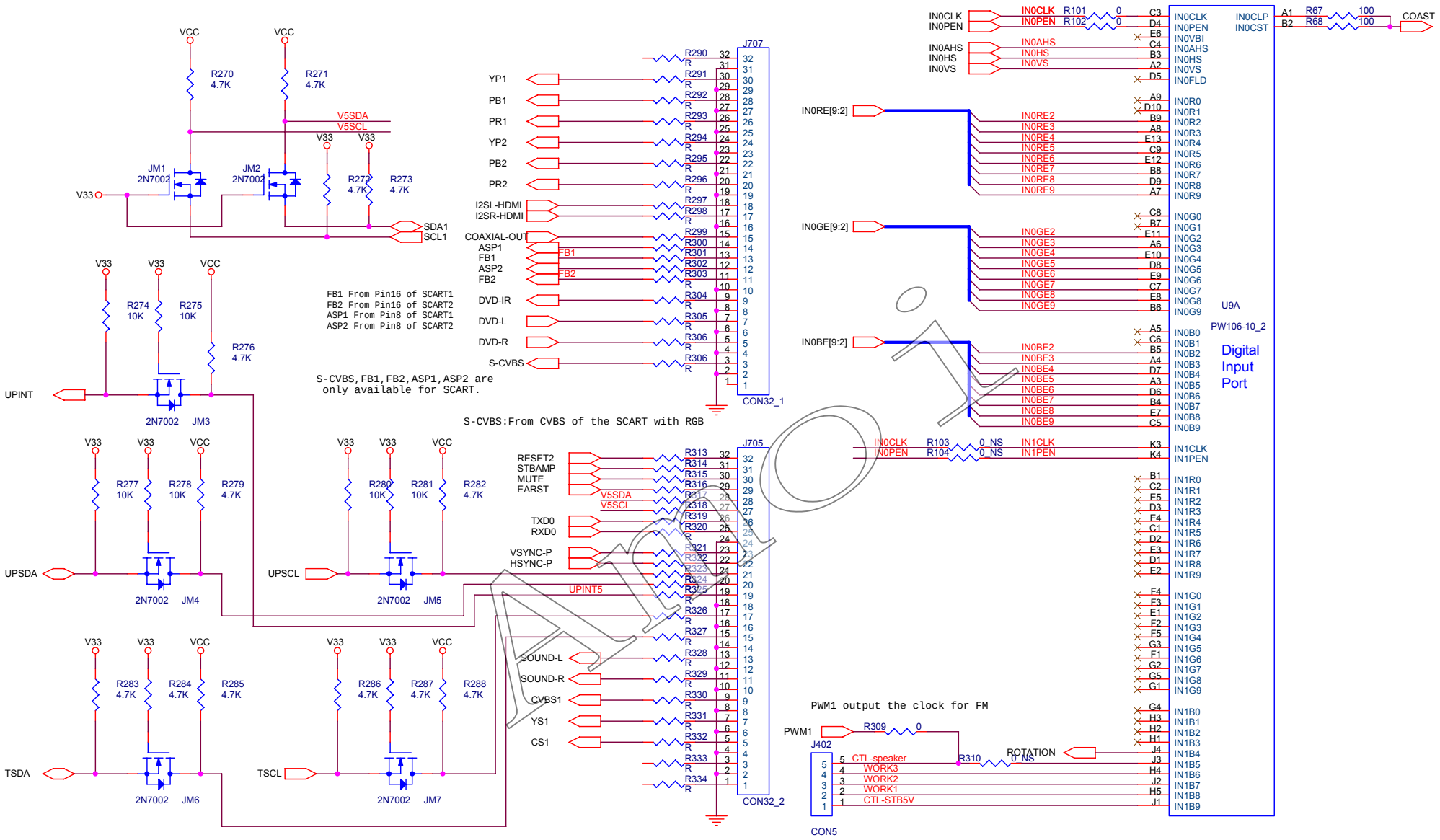
ADCG6
ADCG5
ADCG4
ADCG3
ADCG2
ADCG1
ADCG0
RP3-1
RP3-2
RP3-3
RP3-4
RP4-1
RP4-2
RP4-3
RP4-4
IN0GE9
IN0GE8
IN0GE7
IN0GE6
IN0GE5
IN0GE4
IN0GE3
IN0GE2
IN0BE[9:2]
ADCB7
ADCB6
ADCB5
ADCB4
ADCB3
ADCB2
ADCB1
ADCB0
RP5-1
RP5-2
RP5-3
RP5-4
RP6-1
RP6-2
RP6-3
RP6-4
IN0BE9
IN0BE8
IN0BE7
IN0BE6
IN0BE5
IN0BE4
IN0BE3
IN0BE2
ADCCLK
ADCPEN
ADCHS
ADCVS
RP7-1
RP7-2
RP7-3
RP7-4
IN0CLK
IN0PEN
IN0HS
IN0VS
J403
CON5
U19
LM1117-3.3
Vin
Vo2/o4
ADJ
V33AADJ1
C44
C45
C46
C47
R19
R20
0.1uF
47uF
0.1uF_NS
0 NS
R230=2.2K, R231=3.3K, C289=0.1uF
if LM1117-ADJ is stuffed ;
U5
54LS224_5
LRCO
SD
BCKIN
I2SR-HDMI
I2SL-HDMI
SCKO
R54
R55
R56
R57
R14
R15
R16
R17
R18
C48
C49
C50
C51
10uF
0.1uF
VCC
V33A1
V33A2
V33A4
C181
C182
C183
C184
C188
C178
C179
C174
C175
C176
C185
C186
C60
FB_1K_OHM_200MA
L38
L39
V33
U6
AD9883_0
C52
C53
0.039uF
3900pF
R264
3.3K
FILT
SDA R62
SCL R61
300
SDA
SCL
A0
S-R
S-G
S-B
RAIN
GAIN
SOGIN
BAIN
C54
C55
C56
C57
0.047u
CC0603N
R10
75
RC0603N
VGAHS
VGAVS
HSYNC
VSYNC
COAST
REFBYP
MIDSCV
CLAMP
C58
C59
0.1u
RED7
RED6
RED5
RED4
RED3
RED2
RED1
RED0
GREEN7
GREEN6
GREEN5
GREEN4
GREEN3
GREEN2
GREEN1
GREEN0
BLUE7
BLUE6
BLUE5
BLUE4
BLUE3
BLUE2
BLUE1
BLUE0
DATACK
HSOUT
SOGOUT
VSOUT
DGRO9
DGRO8
DGRO7
DGRO6
DGRO5
DGRO4
DGRO3
DGRO2
RP18-1
RP18-2
RP18-3
RP18-4
RP19-1
RP19-2
RP19-3
RP19-4
DGGO9
DGGO8
DGGO7
DGGO6
DGGO5
DGGO4
DGGO3
DGGO2
RP21-1
RP21-2
RP21-3
RP21-4
RP24-1
RP24-2
RP24-3
RP24-4
DGBO9
DGBO8
DGBO7
DGBO6
DGBO5
DGBO4
DGBO3
DGBO2
RP27-1
RP27-2
RP27-3
RP27-4
RP30-1
RP30-2
RP30-3
RP30-4
RP34-1
RP34-2
RP34-3
RP34-4
U24
LM1117-3.3
C293
C299
R236
R237
0.1uF_NS
V33AADJ0
AMOI
Confidential
HDMI INTERFACE
OPAL SINGLE CHANNEL
Rev A
Size B
Document Number
Date: Friday, March 10, 2006
Sheet 2 of 11

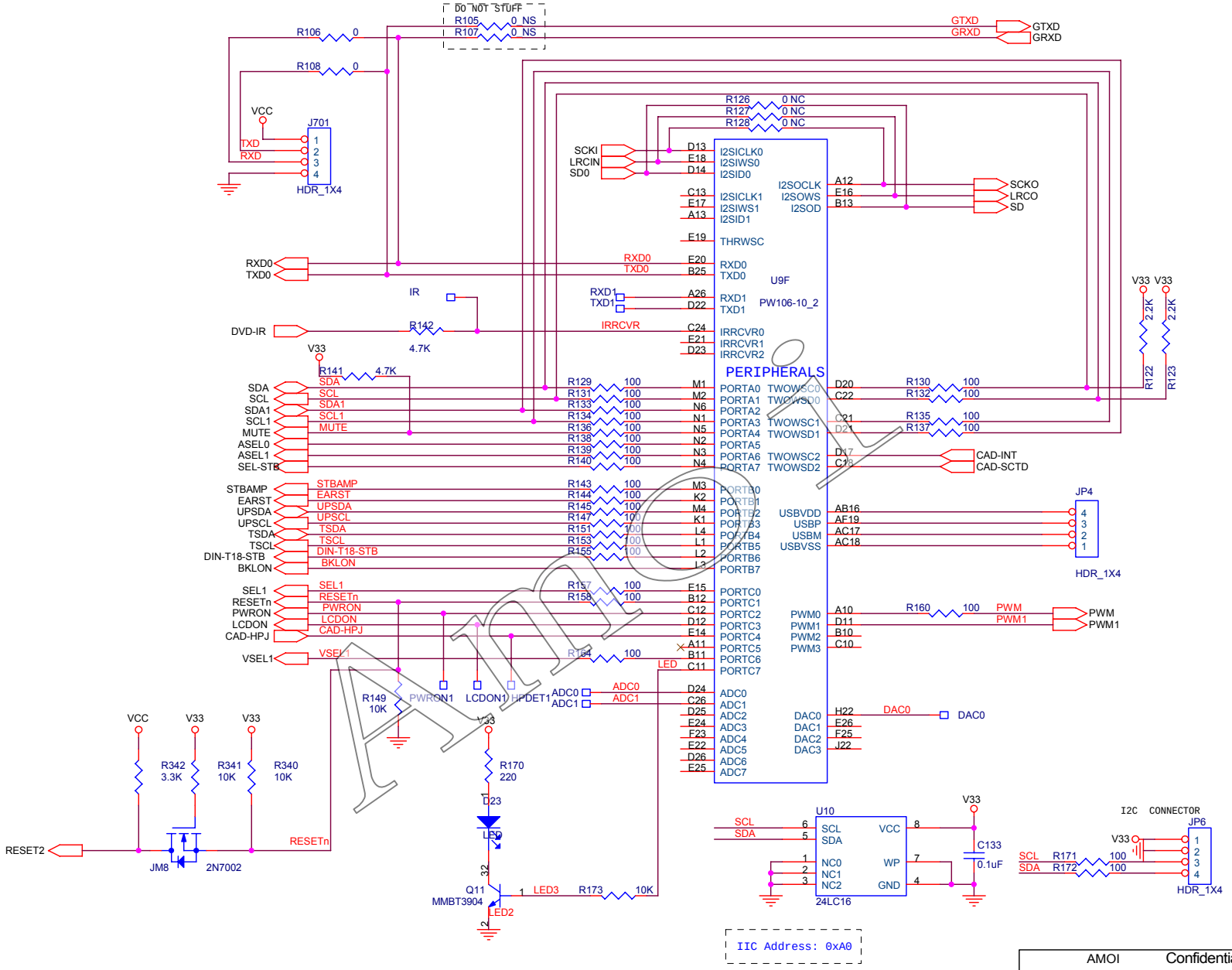
AMOI


SW2-PR
SW2-YP
SW2-PB
PR1
YP1
PB1
FB1
FB2
ASP1
ASP2
RAIN
GAIN
BAIN
HSYNC
VSYNC
YS1
CS1
CVBS1
SW2-SOG
S-CVBS
S-CVBSIN
SYNC-DE-5V
SYNC_DECT
ARMUX
VCC
U9B
PW106-10_2
CONN RCPT 13
J702
XTAL 27.000
MMBT3904
3906
AMOI
Confidential
ANALOG INPUT PORT
OPAL SINGLE CHANNEL
Rev A
Friday, March 10, 2006
Sheet 3 of 11

AMOI



AMOI	Confidential	
Title	DIGITAL INPUT PORT and I/O INPUT	
Size B	Document Number OPAL SINGLE CHANNEL	Rev A
Date: Friday, March 10, 2006	Sheet 4 of 11	


Do NOT STUFF
R105 0 NS
R107 0 NS
R106 0
R108 0
GTXD
GRXD
GTXD
GRXD
VCC
J701
TXD
RXD
HDR_1X4
R126 0 NC
R127 0 NC
R128 0 NC
SCKI
LRCIN
SD0
I2SICLK0
I2SIWS0
I2SID0
I2SOCLK
I2SOWS
I2SOD
SCKO
LRCO
SD
I2SICLK1
I2SIWS1
I2SID1
THRWSC
RXD0
TXD0
U9F
RXD1
TXD1
PW106-10_2
IR
DVD-IR
R142 4.7K
IRRCVR
IRRCVR0
IRRCVR1
IRRCVR2
V33
R141 4.7K
PERIPHERALS
SDA
SCL
SDA1
SCL1
MUTE
ASEL0
ASEL1
SEL-STB
R129 100
R131 100
R133 100
R134 100
R136 100
R138 100
R139 100
R140 100
PORTA0 TWOWSC0
PORTA1 TWOWSD0
PORTA2
PORTA3 TWOWSC1
PORTA4 TWOWSD1
PORTA5
PORTA6 TWOWSC2
PORTA7 TWOWSD2
R130 100
R132 100
R135 100
R137 100
CAD-INT
CAD-SCTD
V33 V33
2.2K
2.2K
R122
R123
STBAMP
EARST
UPSDA
UPSCL
TSDA
TSCL
DIN-T18-STB
BKLON
R143 100
R144 100
R145 100
R147 100
R151 100
R153 100
R155 100
PORTB0
PORTB1
PORTB2
PORTB3
PORTB4
PORTB5
PORTB6
PORTB7
USBVDD
USBP
USBM
USBVSS
JP4
HDR_1X4
SEL1
RESETn
PWRON
LCDON
CAD-HPJ
VSEL1
R157 100
R158 100
R154 100
PORTC0
PORTC1
PORTC2
PORTC3
PORTC4
PORTC5
PORTC6
PORTC7
PWM0
PWM1
PWM2
PWM3
R160 100
PWM
PWM1
LED
R149 10K
PWRON1
LCDON1
HPDET1
ADC0
ADC1
ADC0
ADC1
ADC2
ADC3
ADC4
ADC5
ADC6
ADC7
DAC0
DAC1
DAC2
DAC3
DAC0
DAC0
VCC
V33
V33
R342 3.3K
R341 10K
R340 10K
R170 220
D23
LED
RESET2
JM8
2N7002
RESETn
Q11
MMBT3904
LED3
LED2
R173 10K
U10
SCL
SDA
NC0
NC1
NC2
VCC
WP
GND
24LC16
C133
0.1uF
I2C CONNECTOR
JP6
R171 100
R172 100
HDR_1X4
IIC Address: 0xA0
AMOI Confidential
Title PREIPHERALS
Size B
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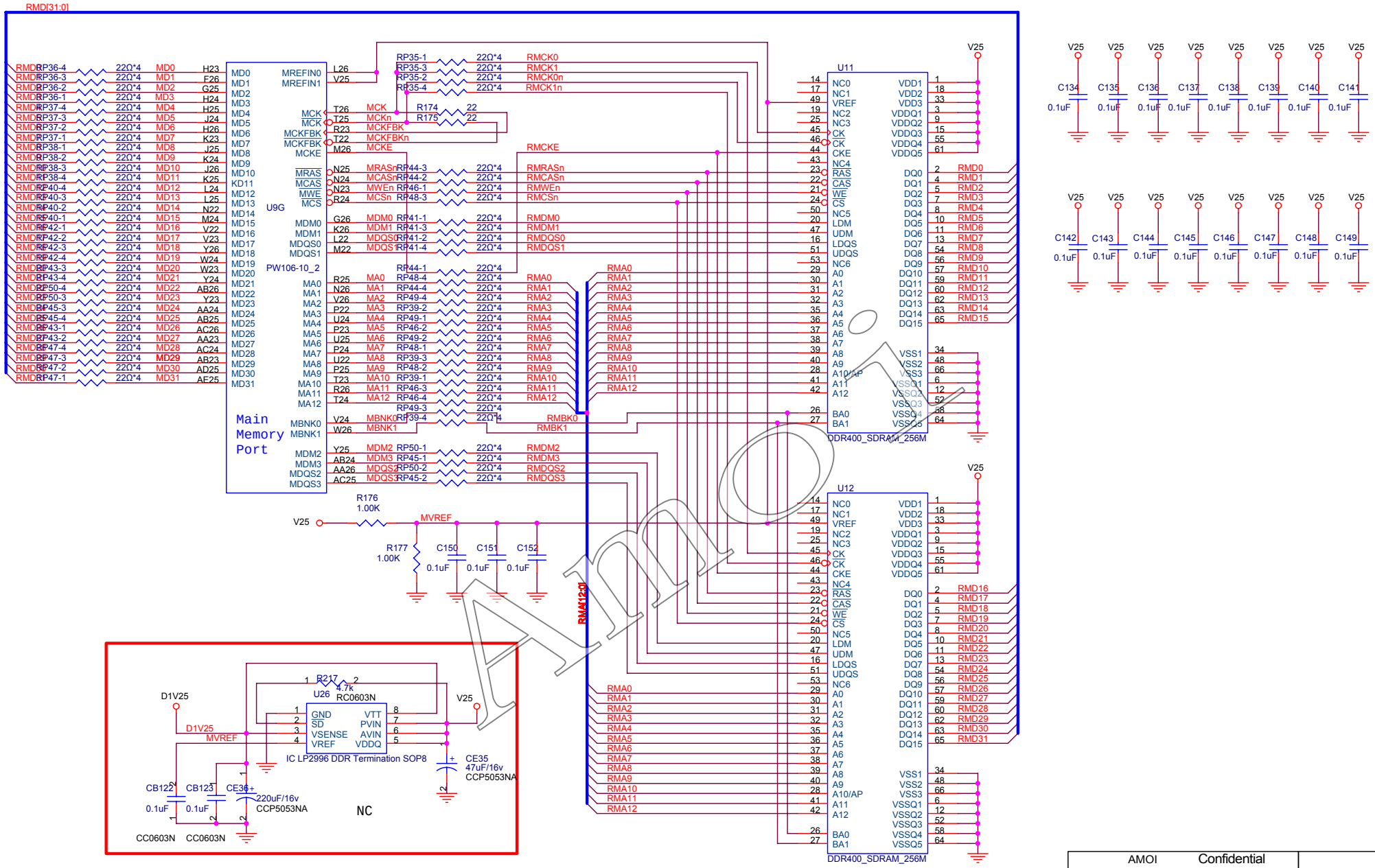
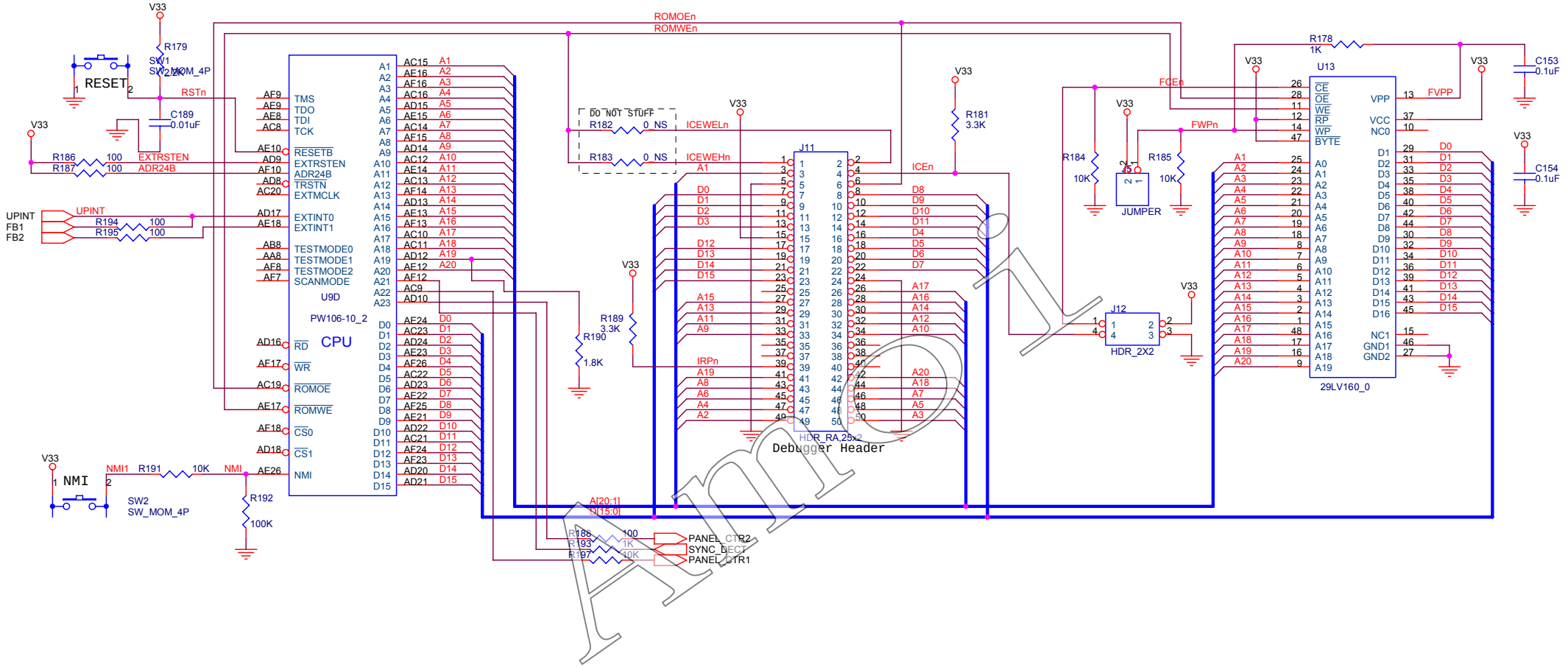


AMOI	Confidential		
Title	DDR SDRAM		
Size B	Document Number	OPAL SINGLE CHANNEL	Rev A
Date: Friday, March 10, 2006		Sheet 6 of 11	



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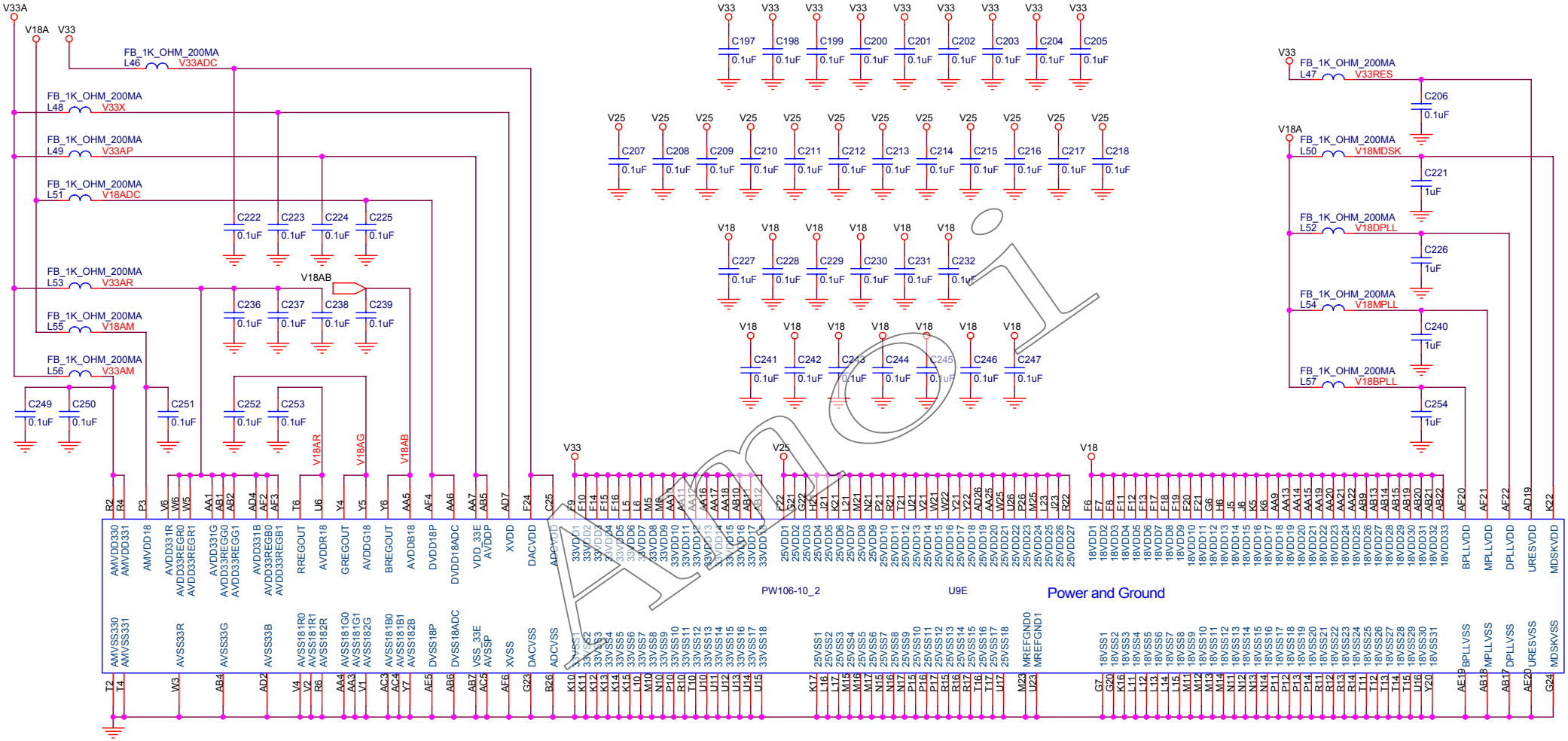
AMOI Confidential			
Title: CPU			
Size: B	Document Number: OPAL SINGLE CHANNEL		Rev: A
Date: Friday, March 10, 2006		Sheet 7 of 11	



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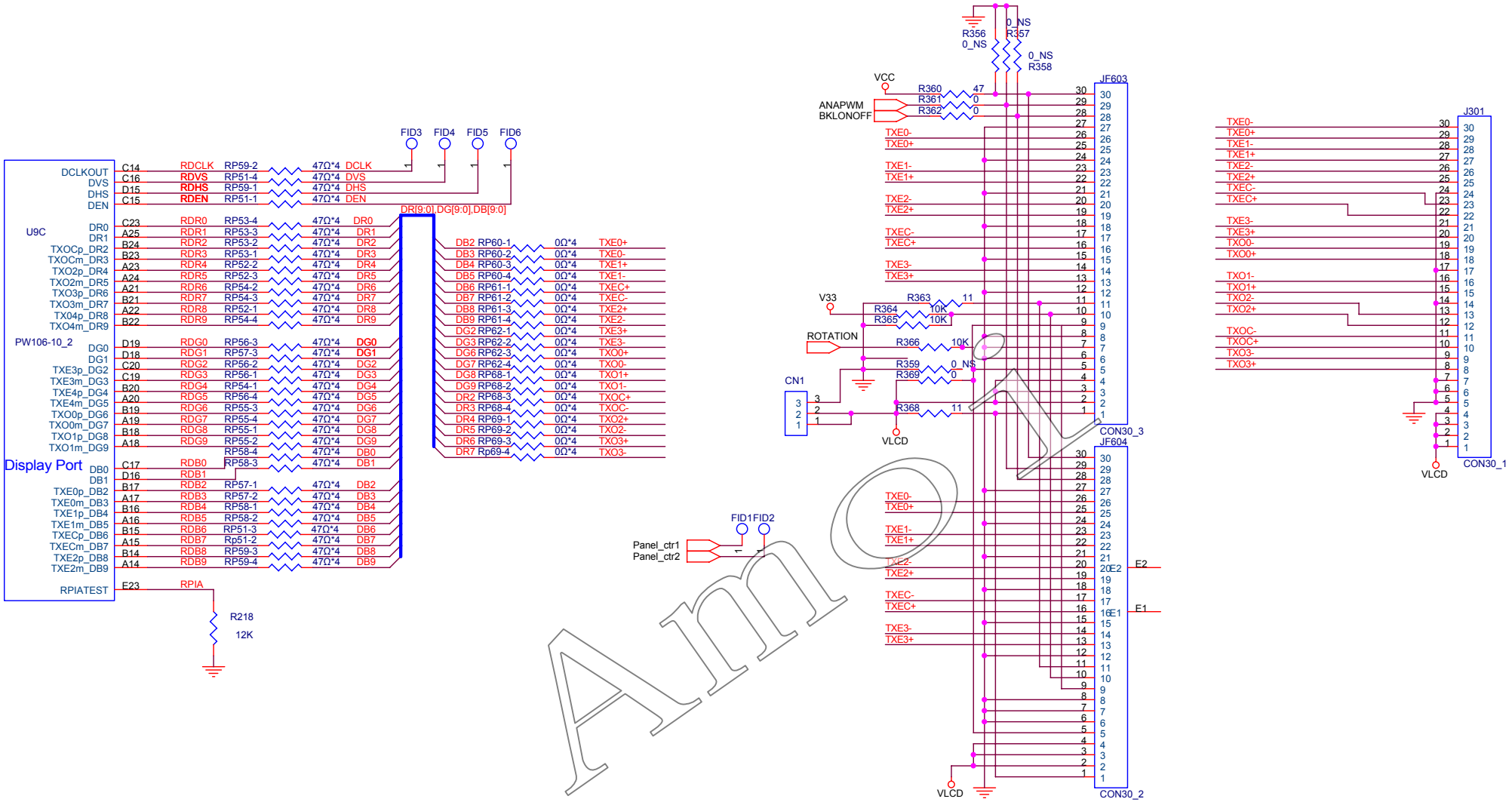
Size B	Document Number	OPAL SINGLE CHANNEL	Rev A
Date: Friday, March 10, 2006		Sheet 8 of 11	



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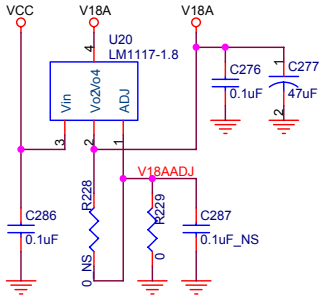
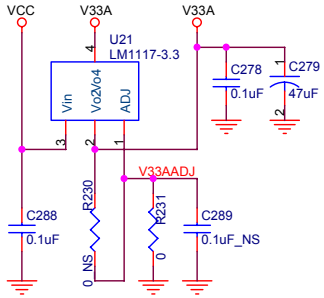
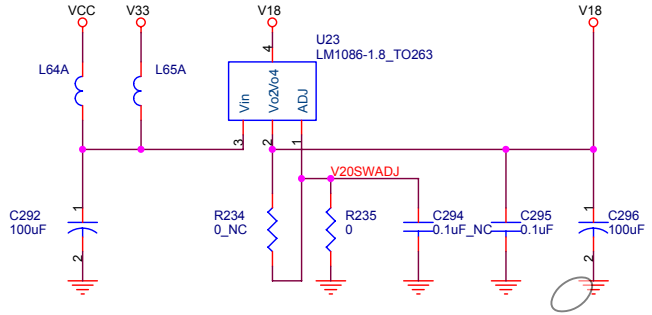
AMOI	Confidential		
Title	DISPLAY		
Size B	Document Number	OPAL SINGLE CHANNEL	Rev A
Date: Friday, March 10, 2006		Sheet 9 of 11	



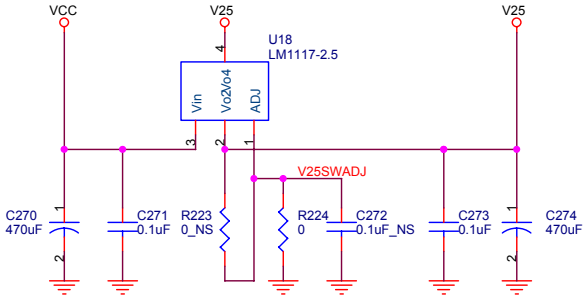
R228=4.7K, R229=1.8K, C287=0.1uf
if LM1117-ADJ is stuffed ;



R230=2.2K, R231=3.3K, C289=0.1uF
if LM1117-ADJ is stuffed ;



R234=3.3K, R235=1.8K, C294=0.1uF
if LM1086-ADJ is stuffed ;



R223=4.7K, R224=3.9K, C272=0.1uF
if LM1117-ADJ is stuffed ;

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AMOI Confidential			
Title: CORE POWER			
Size: B	Document Number: OPAL SINGLE CHANNEL		Rev: A
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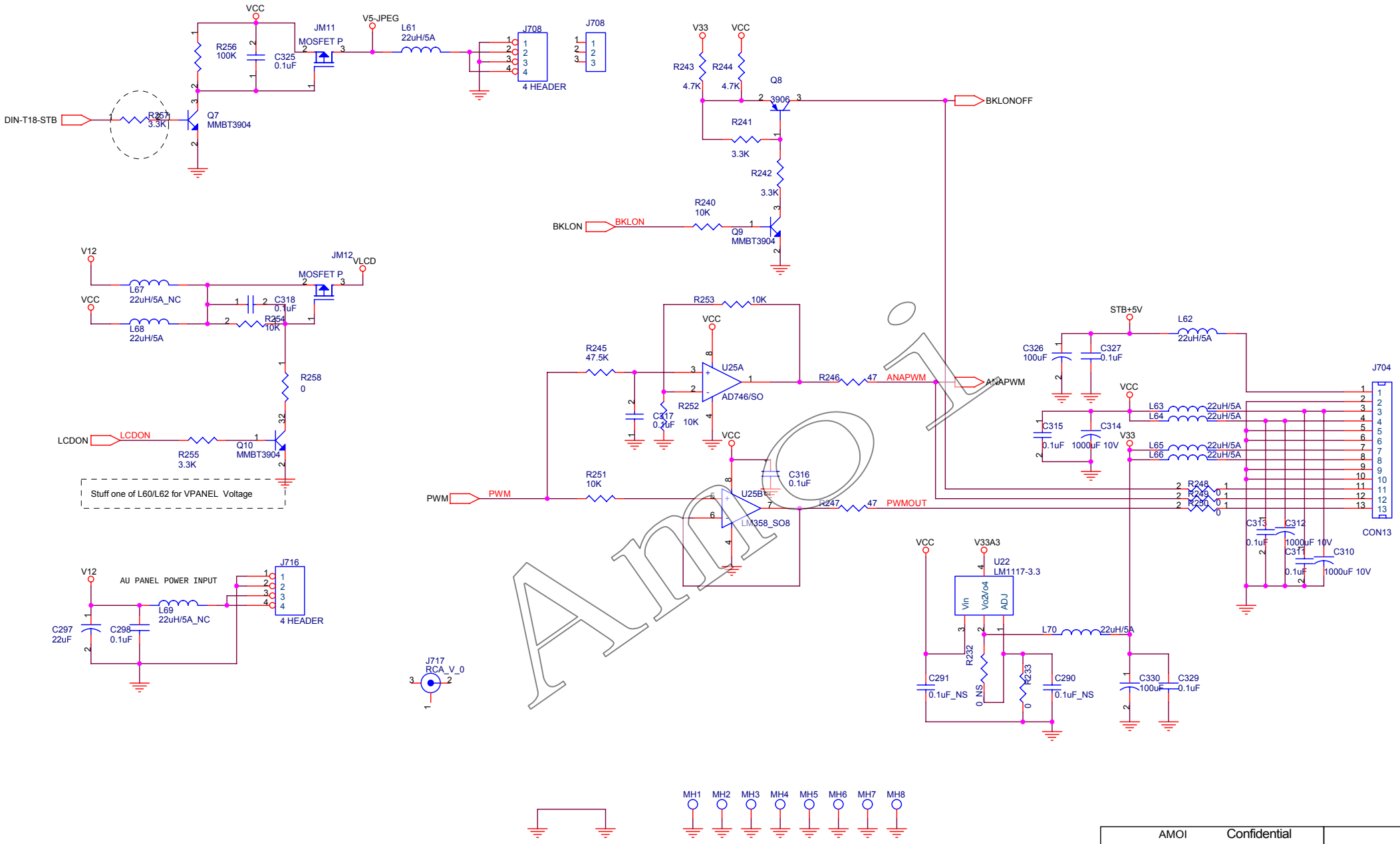
VCC
JM11
MOSFET P
V5-JPEG
L61
22uH/5A
R256
100K
C325
0.1uF
J708
4 HEADER
DIN-T18-STB
R257
3.3K
Q7
MMBT3904
V33
VCC
R243
4.7K
R244
4.7K
Q8
3906
BKLONOFF
R241
3.3K
R242
3.3K
R240
10K
BKLON
Q9
MMBT3904
V12
JM12
VLCD
MOSFET P
L67
22uH/5A_NC
L68
22uH/5A
C318
0.1uF
R254
10K
R258
0
LCDON
Q10
MMBT3904
R255
3.3K
Stuff one of L60/L62 for VPANEL Voltage
R253
10K
R245
47.5K
U25A
AD746/SO
R246
47
ANAPWM
R252
10K
C317
0.1uF
PWM
R251
10K
C316
0.1uF
U25B
LM358_SO8
R247
47
PWMOUT
STB+5V
L62
22uH/5A
C326
100uF
C327
0.1uF
L63
22uH/5A
L64
22uH/5A
L65
22uH/5A
L66
22uH/5A
C315
0.1uF
C314
1000uF 10V
R248
R249
R250
J704
CON13
C313
0.1uF
C312
1000uF 10V
C311
0.1uF
C310
1000uF 10V
V33A3
U22
LM1117-3.3
Vin
Vo2/o4
ADJ
L70
22uH/5A
R232
0_NS
R233
0
C291
0.1uF_NS
C290
0.1uF_NS
C330
100uF
C329
0.1uF
AU PANEL POWER INPUT
J716
4 HEADER
L69
22uH/5A_NC
C297
22uF
C298
0.1uF
J717
RCA_V_0
MH1
MH2
MH3
MH4
MH5
MH6
MH7
MH8
AMOI
Confidential
Title
MAIN POWER
Size
B
Document Number
OPAL SINGLE CHANNEL
Rev
A
Date:
Friday, March 10, 2006
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11
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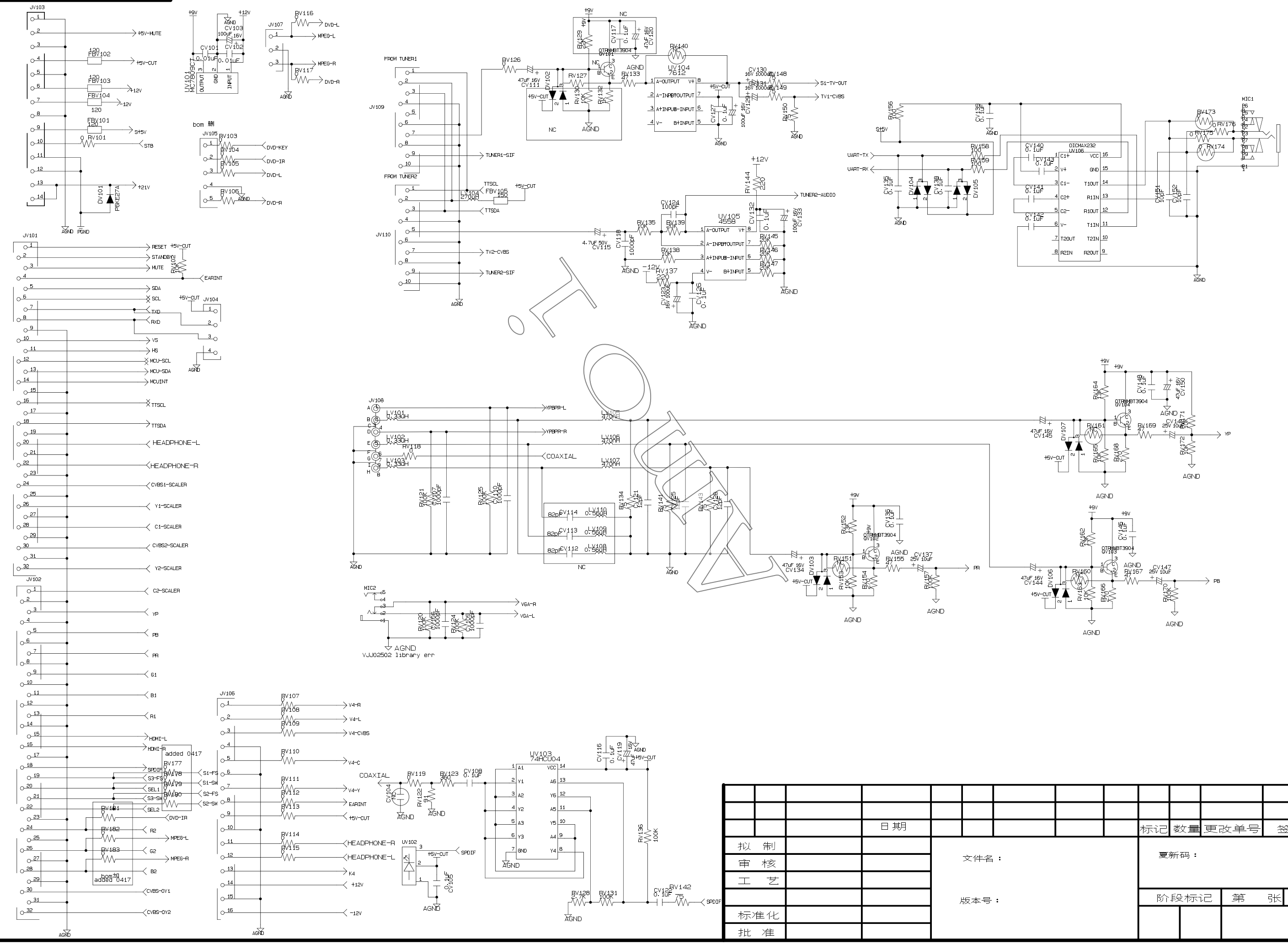

OUT

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工 艺														
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标准化														
批 准														

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日期	签名

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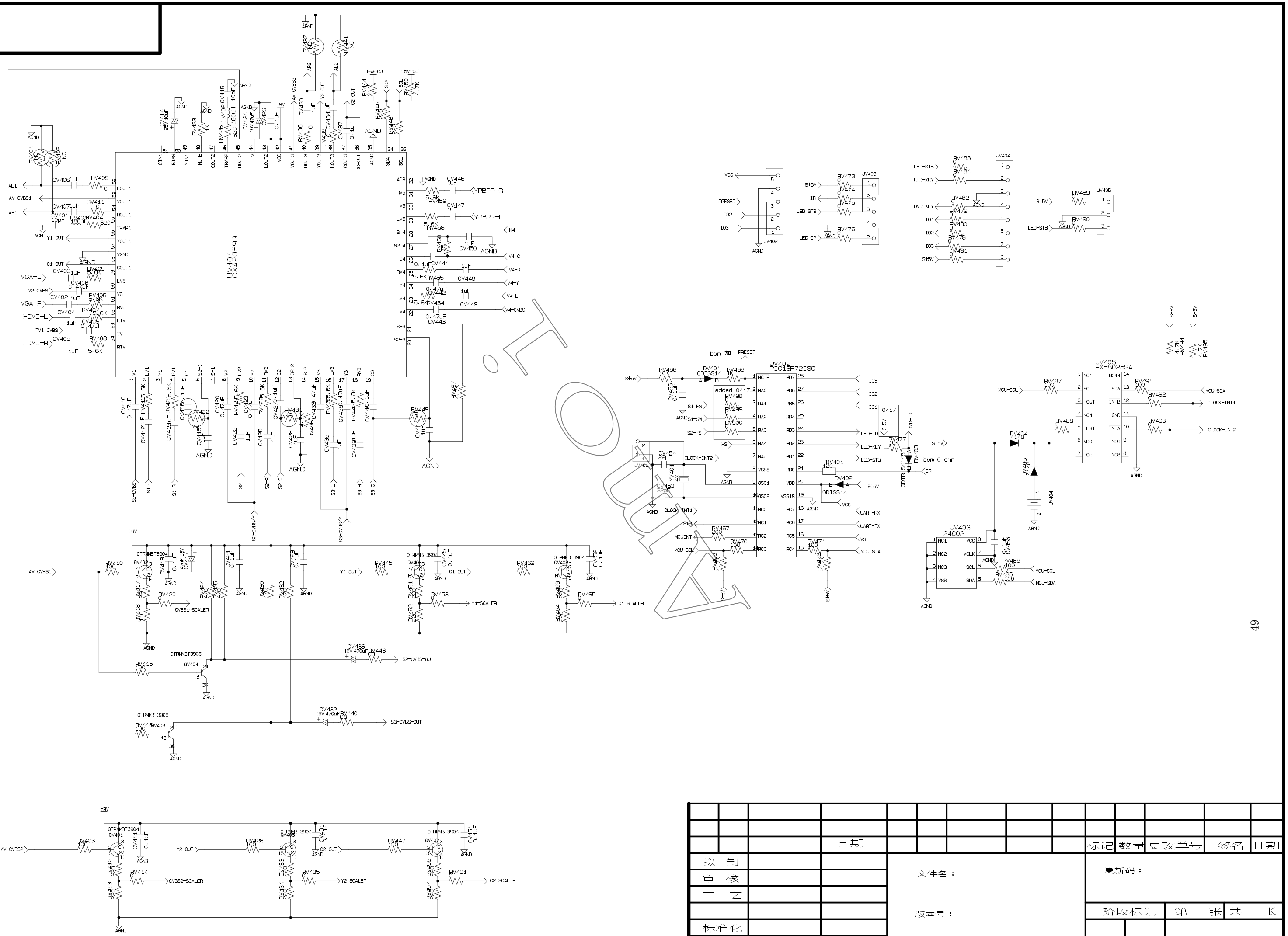

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日期	签名

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审 核													
工 艺													
标准化													
批 准													

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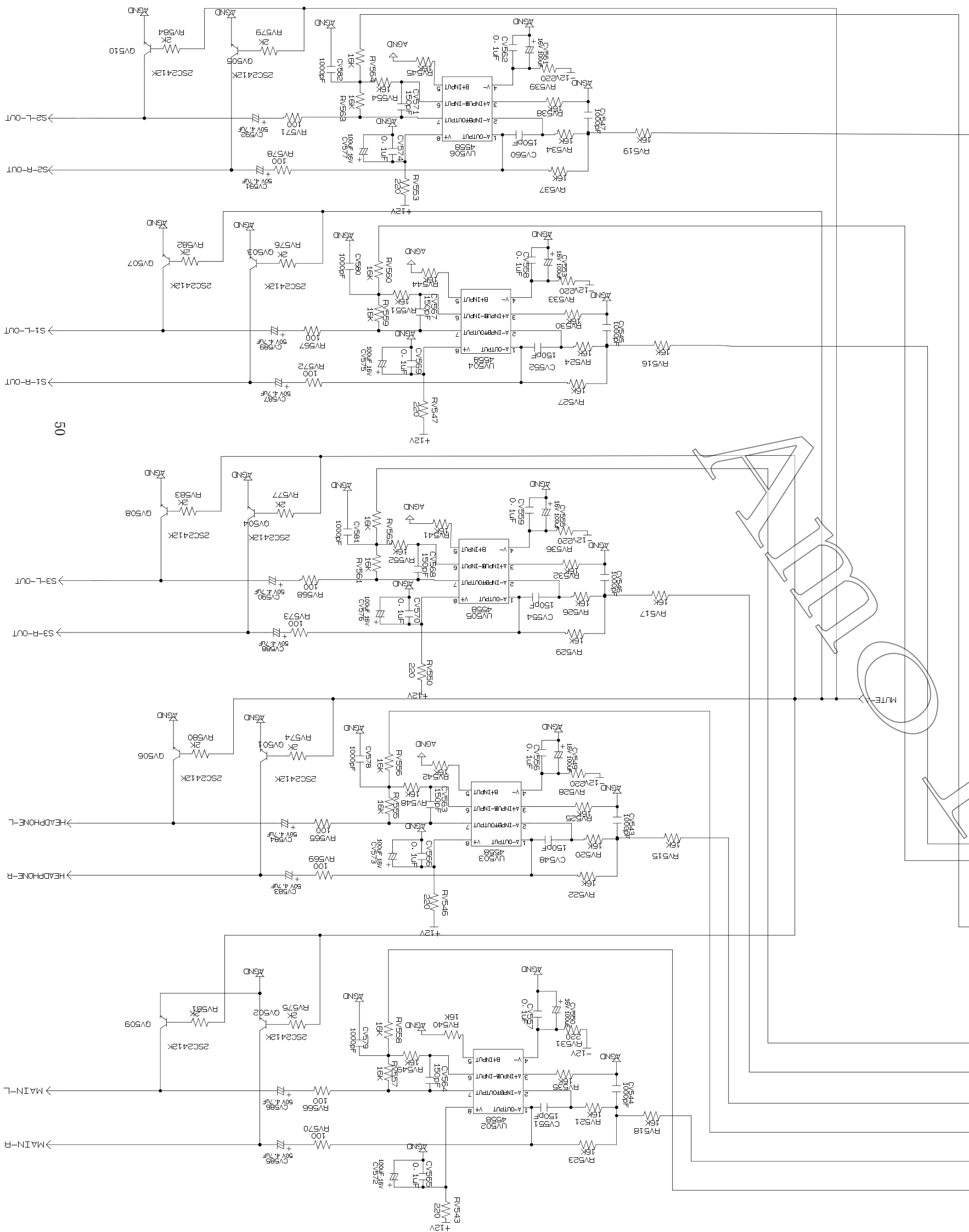
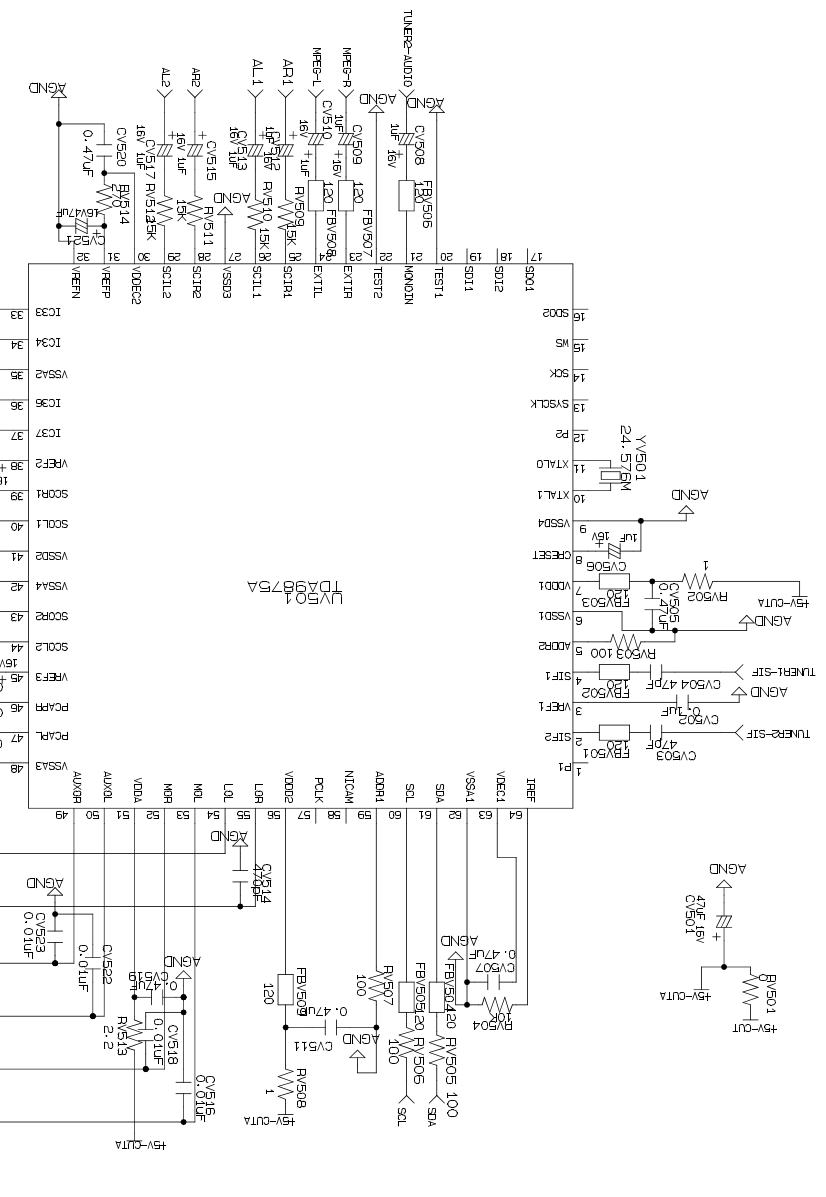

S2-L-OUT
S2-R-OUT
S1-L-OUT
S1-R-OUT
S3-L-OUT
S3-R-OUT
HEADPHONE-L
HEADPHONE-R
MAIN-L
MAIN-R
MUTE
+12V
-12V
AGND
2SC2412K
UV5506 4558
UV5505 4558
UV5504 4558
UV5503 4558
UV5502 4558
UV5501 4558

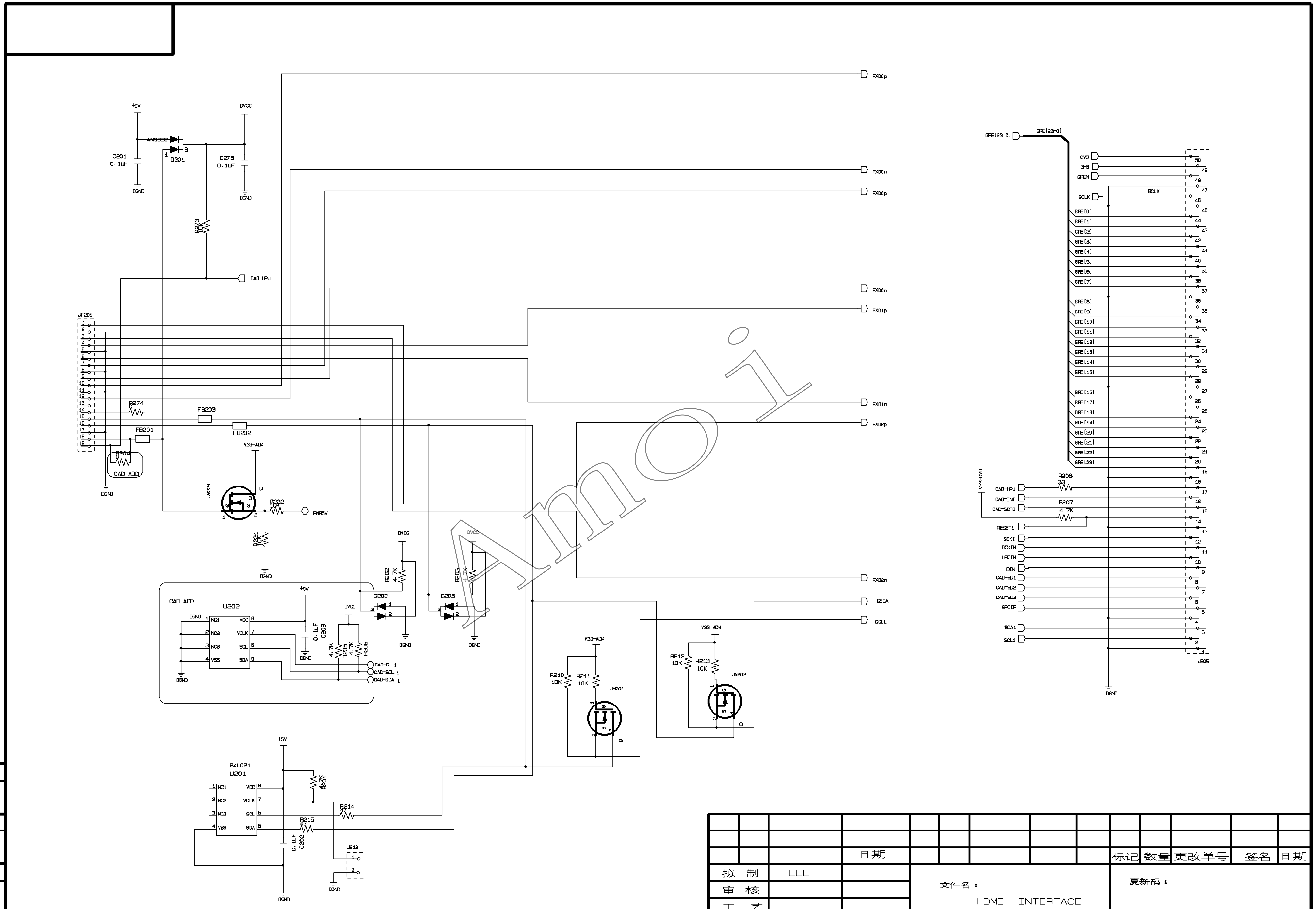
Aiwa


TUNER2-AUDIO
TUNER-SIF
MPEG-L
MPEG-R
AL1
AR1
AL2
AR2
MUTE
+5V-OUT1
+5V-OUT2
+5V-OUT3
+5V-OUT4
YV501
24.576M
LV5501
TC9367SA

| | | |

6.3.Schematic Diagrams

Public part for LC26T1E/LC32T1E/LC37T1E/LC42T1E


+5V
DVCC
ANODE2
D201
C201
0.1uF
C273
0.1uF
DGND
R273
10K
CAD-HPJ
JF201
R274
0
FB203
FB202
FB201
R204
0
CAD ADD
V33-AD4
JM221
R222
10K
PWR5V
R221
10K
CAD ADD
U202
NC1
NC2
NC3
VSS
VCC
VCLK
SCL
SDA
C203
0.1uF
R205
4.7K
R206
4.7K
CAD-C
CAD-SCL
CAD-SDA
R202
4.7K
D202
R203
4.7K
D203
24LC21
U201
R201
4.7K
R214
47
R215
47
C202
0.1uF
J913
RXDCp
RXDCm
RXD0p
RXD0m
RXD1p
RXD1m
RXD2p
RXD2m
GSDA
GSCL
R210
10K
R211
10K
JM201
R212
10K
R213
10K
JM202
GRE[23-0]
GVS
GHS
GPEN
GCLK
GRE[0]
GRE[1]
GRE[2]
GRE[3]
GRE[4]
GRE[5]
GRE[6]
GRE[7]
GRE[8]
GRE[9]
GRE[10]
GRE[11]
GRE[12]
GRE[13]
GRE[14]
GRE[15]
GRE[16]
GRE[17]
GRE[18]
GRE[19]
GRE[20]
GRE[21]
GRE[22]
GRE[23]
V33-OVDD
CAD-HPJ
R208
33
CAD-INT
CAD-SCTD
R207
4.7K
RESET1
SCKI
BCKIN
LRCIN
DIN
CAD-SD1
CAD-SD2
CAD-SD3
SPDIF
SDA1
SCL1
J909

Amoi

标记	数量	更改单号	签名	日期

拟 制	LLL	
审 核		
工 艺		
标准化		
批 准		

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版本号：

夏新码：

阶段标记 | 第 2 张 | 共 9 张

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日期 | 签名

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U401

SII9011CLU

CAD ADD

CAD reiggar

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日期	签名

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标准化														
批 准														

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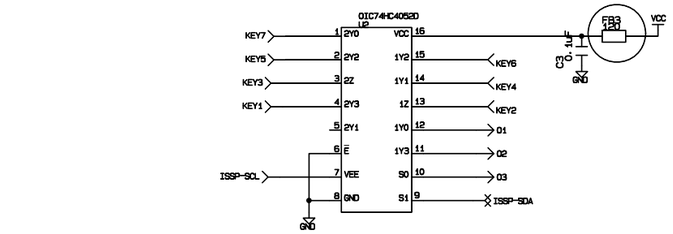
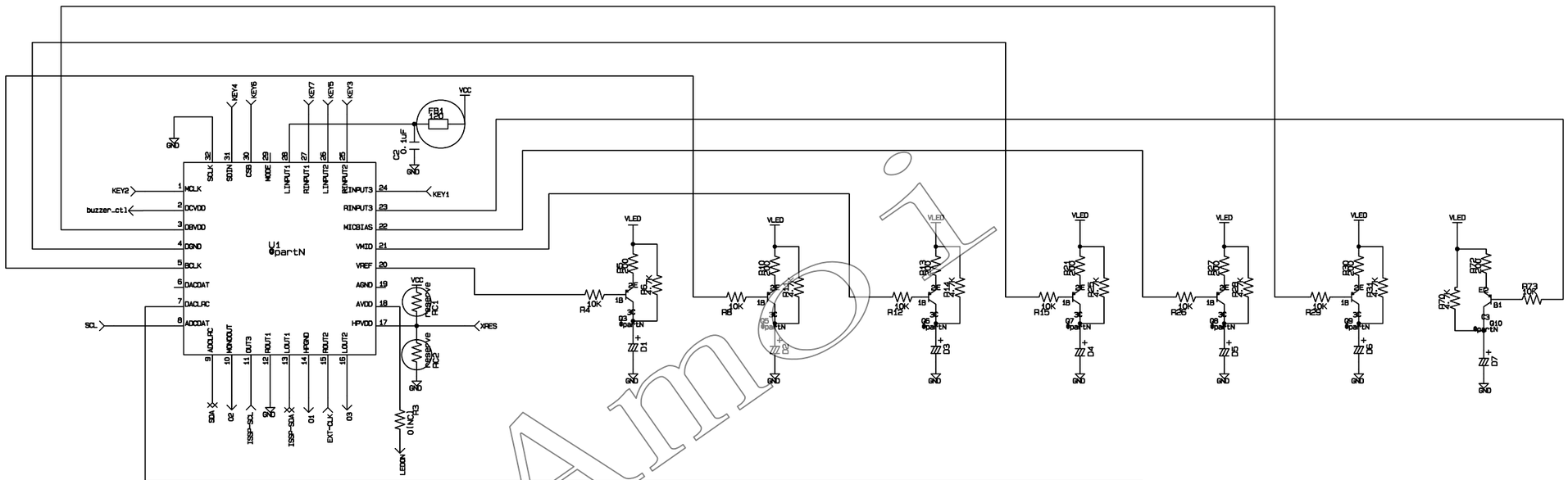
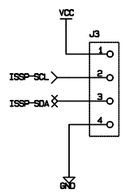
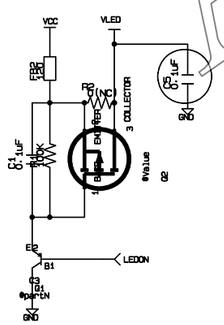
54

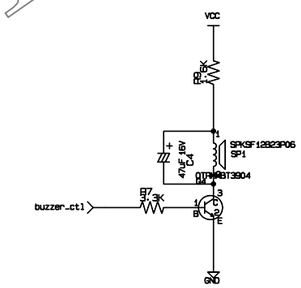
幅面 ： A3

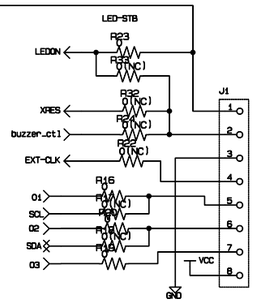


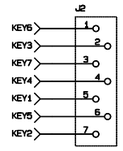












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			日期	2006、02、23					标记	数量	更改单号	签名	日期
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审 核				文件名：Ctrl&LED					更新码：				
工 艺				Cypress_touchkey									
				版本号：					阶段标记		第 1 张	共 1 张	
标准化													
批 准													

媒体编号	
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底图总号	
日期	签名

格式(3)

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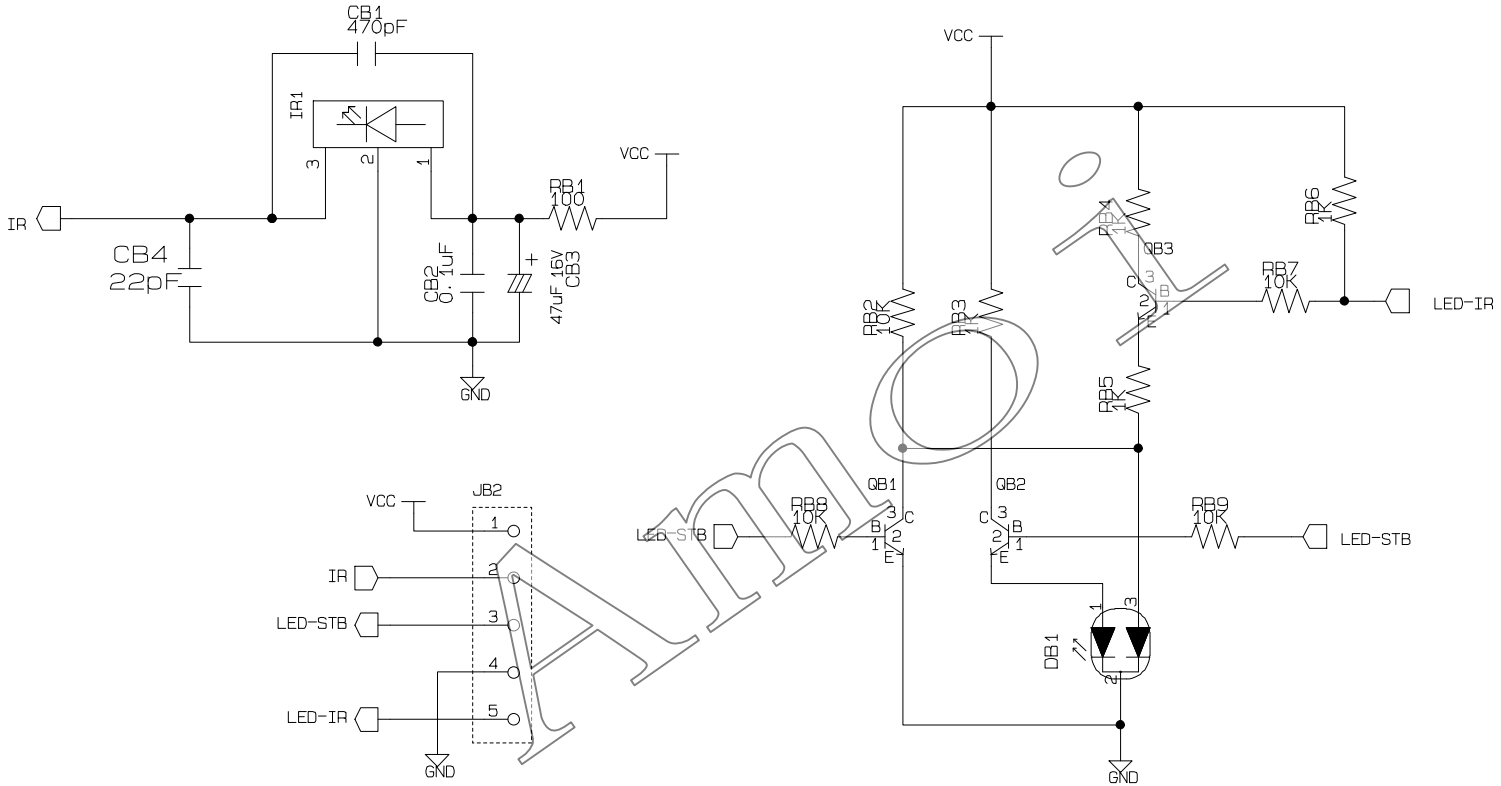
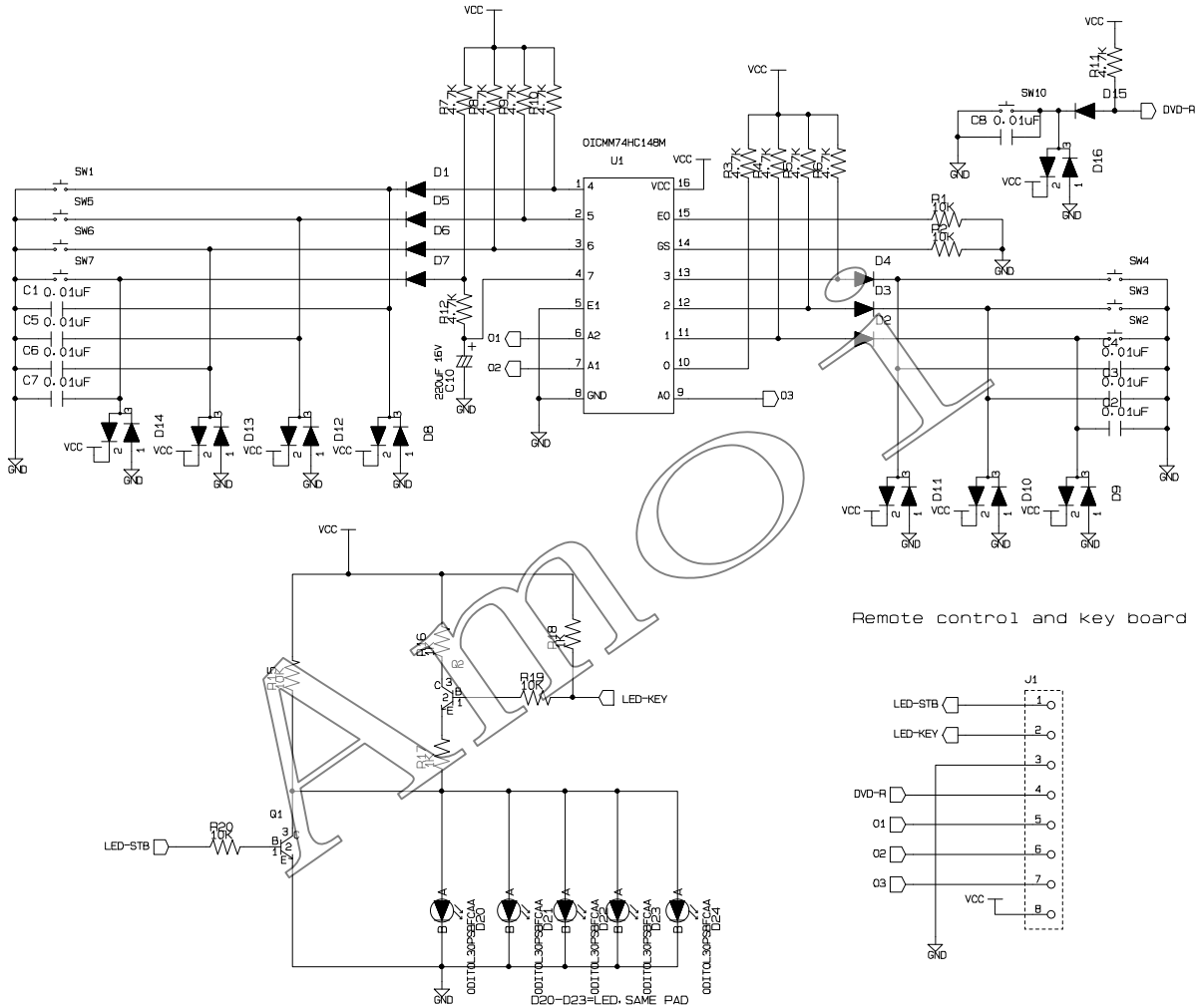


Remote control and key board

Page1



Remote control and key board

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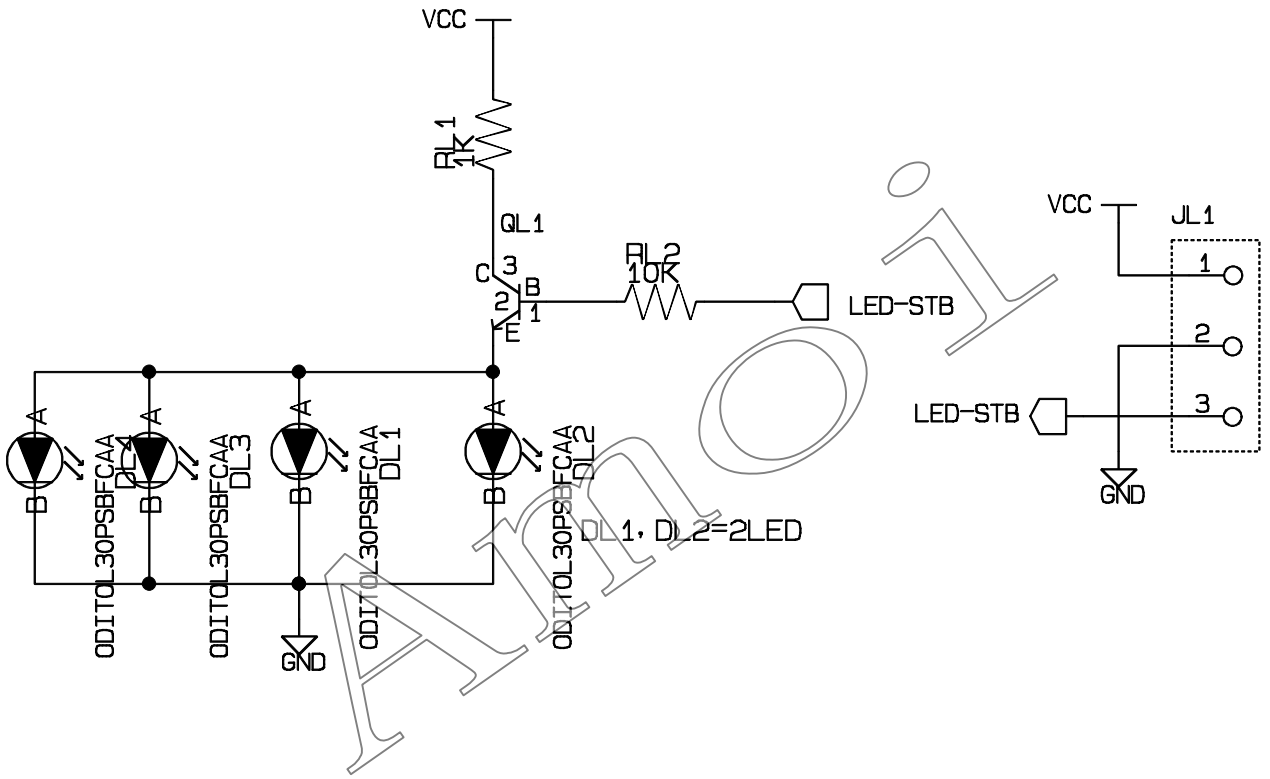
DIMENSION	PROCESS	NOTE			Circuit Name	( )
SCALE : 1	DESIGN	TYPE	CHECK	RECOGNITION	AUTHOR	


VCC
RL1
1K
QL1
C 3
B 2
E 1
RL2
10K
LED-STB
VCC
JL1
1
2
3
LED-STB
GND
B A
ODITOL30PSBFCAA
DL4
DL3
DL1
DL2
GND
DL1，DL2=2LED

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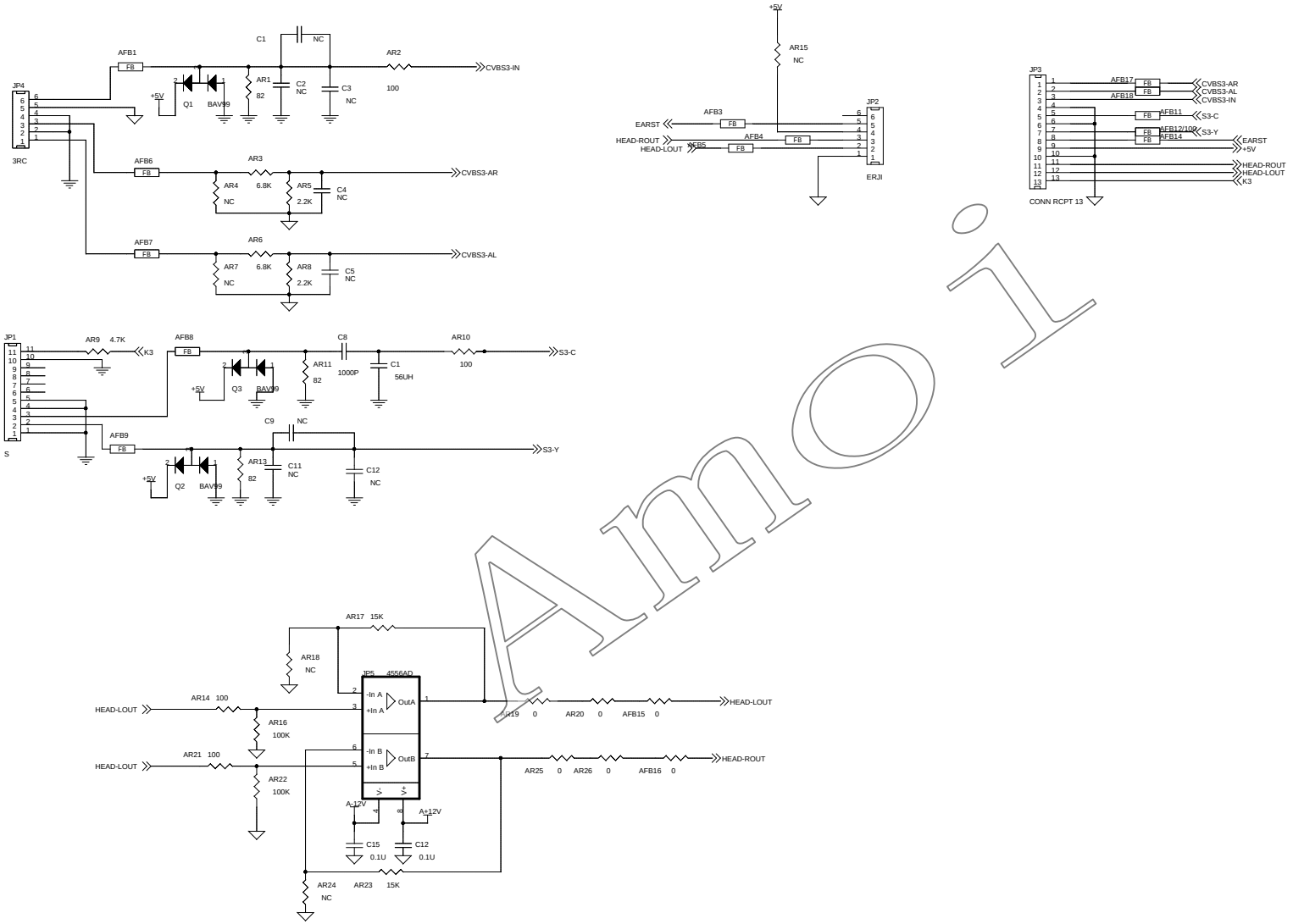
小IO BOARD



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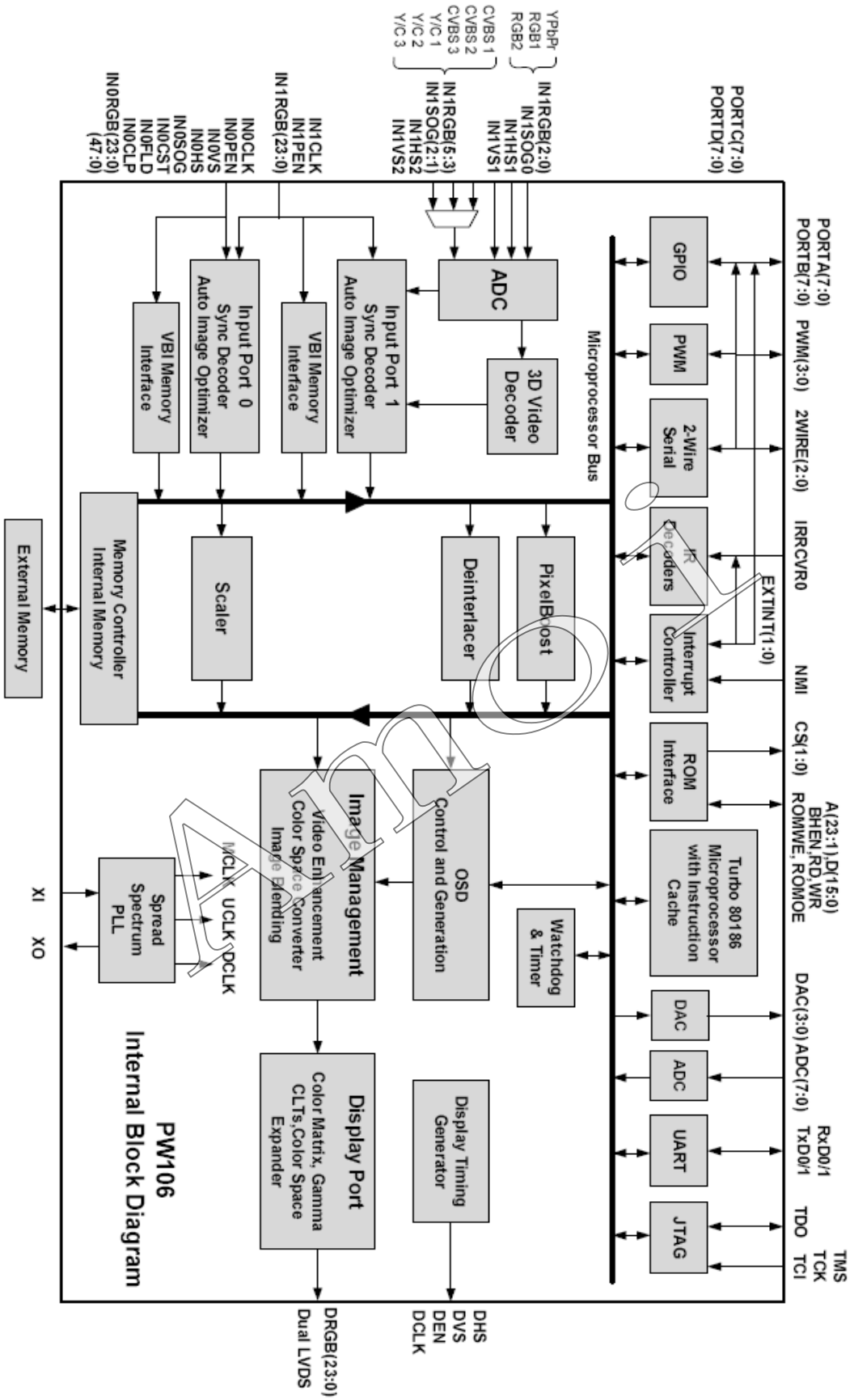
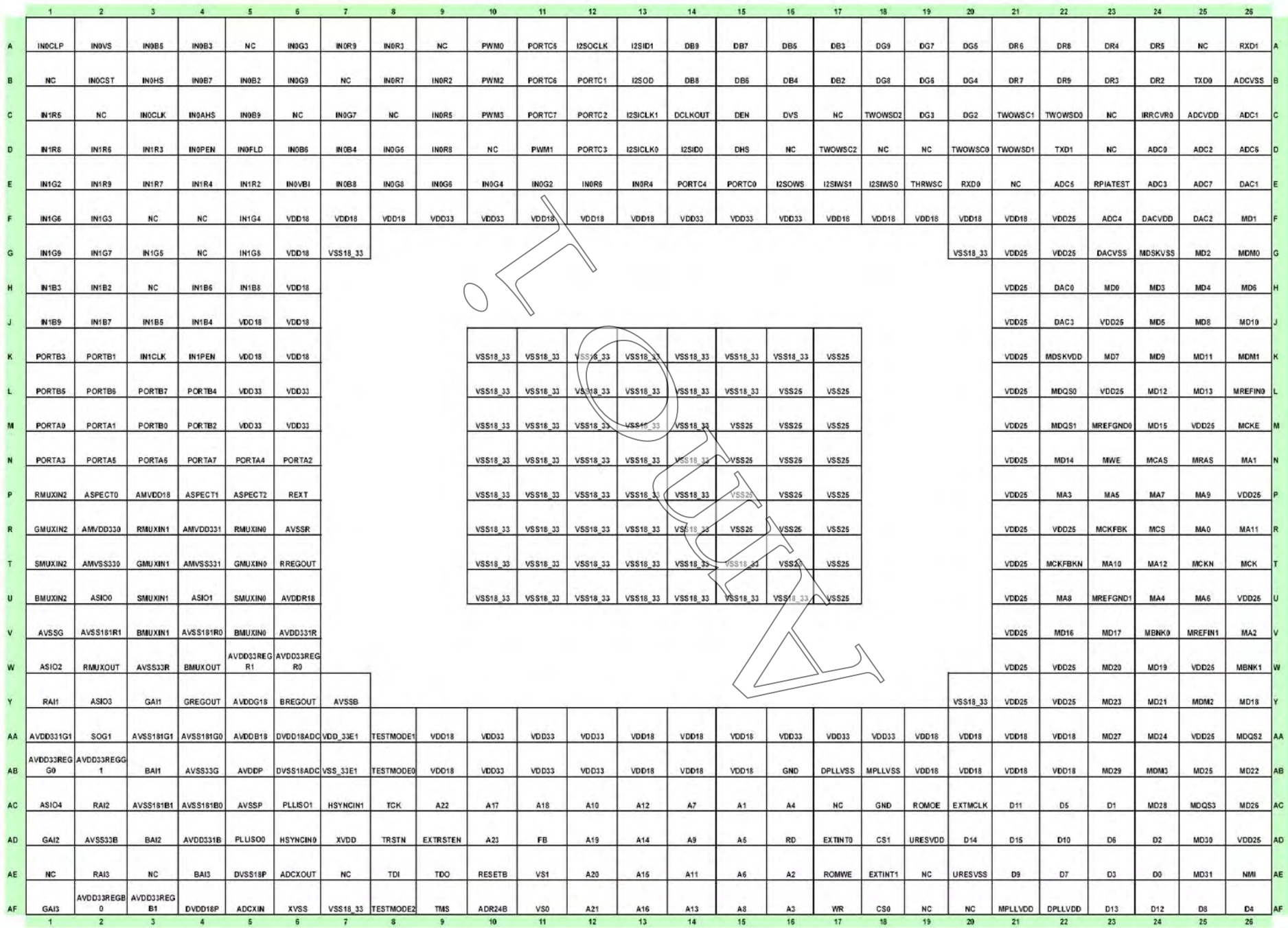
Date: 星期二, 三月 03, 2004	Sheet 1 of 1	

IC PW106


PW106
Internal Block Diagram
PORTA(7:0)
PORTB(7:0)
PWM(3:0)
2WIRE(2:0)
IRRCVR0
NMI
CS(1:0)
A(23:1),D(15:0)
BHEN,RD,WR
ROMWE,ROMOE
DAC(3:0)
ADC(7:0)
RxD0/1
TxD0/1
TDO
TCK
TMS
TCI
PORTC(7:0)
PORTD(7:0)
YPbPr
RGB1
RGB2
CVBS 1
CVBS 2
CVBS 3
Y/C 1
Y/C 2
Y/C 3
IN1RGB(2:0)
IN1SOG0
IN1HS1
IN1VS1
IN1RGB(5:3)
IN1SOG(2:1)
IN1HS2
IN1VS2
IN1CLK
IN1PEN
IN1RGB(23:0)
IN0CLK
IN0PEN
IN0VS
IN0HS
IN0SOG
IN0CST
IN0FLD
IN0CLP
IN0RGB(23:0)
(47:0)
GPIO
PWM
2-Wire Serial
IR Decoders
Interrupt Controller
ROM Interface
Turbo 80186 Microprocessor with Instruction Cache
DAC
ADC
UART
JTAG
EXTINT(1:0)
Microprocessor Bus
ADC
3D Video Decoder
Input Port 1 Sync Decoder Auto Image Optimizer
Input Port 0 Sync Decoder Auto Image Optimizer
VBI Memory Interface
VBI Memory Interface
Deinterlacer
PixelBoost
Scaler
Memory Controller Internal Memory
External Memory
Watchdog & Timer
OSD Control and Generation
Image Management
Video Enhancement
Color Space Converter
Image Blending
MCLK
UCLK
DCLK
Spread Spectrum PLL
XI
XO
Display Timing Generator
Display Port
Color Matrix, Gamma
CLTs,Color Space
Expander
DHS
DVS
DEN
DCLK
DRGB(23:0)
Dual LVDS



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
A	IN0CLP	IN0VS	IN0B5	IN0B3	NC	IN0G3	IN0R9	IN0R3	NC	PWM0	PORTC5	I2SOCLK	I2SID1	DB9	DB7	DB5	DB3	DG9	DG7	DG5	DR6	DR8	DR4	DR5	NC	RXD1	A
B	NC	IN0CST	IN0HS	IN0B7	IN0B2	IN0G9	NC	IN0R7	IN0R2	PWM2	PORTC6	PORTC1	I2SOD	DB8	DB6	DB4	DB2	DG8	DG6	DG4	DR7	DR9	DR3	DR2	TXD0	ADCVSS	B
C	IN1R5	NC	IN0CLK	IN0AHS	IN0B9	NC	IN0G7	NC	IN0R5	PWM3	PORTC7	PORTC2	I2SICLK1	DCLKOUT	DEN	DVS	NC	TWOWSD2	DG3	DG2	TWOWSC1	TWOWSD0	NC	IRRCVR0	ADCVDD	ADC1	C
D	IN1R8	IN1R6	IN1R3	IN0PEN	IN0FLD	IN0B6	IN0B4	IN0G5	IN0R8	NC	PWM1	PORTC3	I2SICLK0	I2SID0	DHS	NC	TWOWSC2	NC	NC	TWOWSC0	TWOWSD1	TXD1	NC	ADC9	ADC2	ADC6	D
E	IN1G2	IN1R9	IN1R7	IN1R4	IN1R2	IN0VBI	IN0B8	IN0G8	IN0G6	IN0G4	IN0G2	IN0R6	IN0R4	PORTC4	PORTC0	I2SOWS	I2SIWS1	I2SIWS0	THRWSC	RXD0	NC	ADC5	RPIATEST	ADC3	ADC7	DAC1	E
F	IN1G6	IN1G3	NC	NC	IN1G4	VDD18	VDD18	VDD18	VDD33	VDD33	VDD18	VDD18	VDD18	VDD33	VDD33	VDD33	VDD18	VDD18	VDD18	VDD18	VDD18	VDD25	ADC4	DACVDD	DAC2	MD1	F
G	IN1G9	IN1G7	IN1G5	NC	IN1G8	VDD18	VSS18_33													VSS18_33	VDD25	VDD25	DACVSS	MDSKVSS	MD2	MDM0	G
H	IN1B3	IN1B2	NC	IN1B6	IN1B8	VDD18															VDD25	DAC0	MD0	MD3	MD4	MD6	H
J	IN1B9	IN1B7	IN1B5	IN1B4	VDD18	VDD18															VDD25	DAC3	VDD25	MD5	MD8	MD10	J
K	PORTB3	PORTB1	IN1CLK	IN1PEN	VDD18	VDD18				VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS25				VDD25	MDSKVDD	MD7	MD9	MD11	MDM1	K
L	PORTB5	PORTB6	PORTB7	PORTB4	VDD33	VDD33				VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS25	VSS25				VDD25	MDQS0	VDD25	MD12	MD13	MREFIN0	L
M	PORTA0	PORTA1	PORTB0	PORTB2	VDD33	VDD33				VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS25	VSS25	VSS25				VDD25	MDQS1	MREFGND0	MD15	VDD25	MCKE	M
N	PORTA3	PORTA5	PORTA6	PORTA7	PORTA4	PORTA2				VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS25	VSS25	VSS25				VDD25	MD14	MWE	MCAS	MRAS	MA1	N
P	RMUXIN2	ASPECT0	AMVDD18	ASPECT1	ASPECT2	REXT				VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS25	VSS25	VSS25				VDD25	MA3	MA5	MA7	MA9	VDD25	P
R	GMUXIN2	AMVDD330	RMUXIN1	AMVDD331	RMUXIN0	AVSSR				VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS25	VSS25	VSS25					VDD25	VDD25	MCKFBK	MCS	MA0	MA11	R
T	SMUXIN2	AMVSS330	GMUXIN1	AMVSS331	GMUXIN0	RREGOUT				VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS25	VSS25				VDD25	MCKFBKN	MA10	MA12	MCKN	MCK	T
U	BMUXIN2	ASIO0	SMUXIN1	ASIO1	SMUXIN0	AVDDR18				VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS18_33	VSS25				VDD25	MA8	MREFGND1	MA4	MA6	VDD25	U
V	AVSSG	AVSS181R1	BMUXIN1	AVSS181R0	BMUXIN0	AVDD331R															VDD25	MD16	MD17	MBNK0	MREFIN1	MA2	V
W	ASIO2	RMUXOUT	AVSS33R	BMUXOUT	AVDD33REGR1	AVDD33REGR0															VDD25	VDD25	MD20	MD19	VDD25	MBNK1	W
Y	RAI1	ASIO3	GAI1	GREGOUT	AVDDG18	BREGOUT	AVSSB													VSS18_33	VDD25	VDD25	MD23	MD21	MDM2	MD18	Y
AA	AVDD331G1	SOG1	AVSS181G1	AVSS181G0	AVDDB18	DVDD18ADC	VDD_33E1	TESTMODE1	VDD18	VDD33	VDD33	VDD33	VDD18	VDD18	VDD18	VDD33	VDD33	VDD33	VDD18	VDD18	VDD18	VDD18	MD27	MD24	VDD25	MDQS2	AA
AB	AVDD33REGG0	AVDD33REGG1	BAI1	AVSS33G	AVDDP	DVSS18ADC	VSS_33E1	TESTMODE0	VDD18	VDD33	VDD33	VDD33	VDD18	VDD18	VDD18	GND	DPLLVSS	MPLLVSS	VDD18	VDD18	VDD18	VDD18	MD29	MDM3	MD25	MD22	AB
AC	ASIO4	RAI2	AVSS181B1	AVSS181B0	AVSSP	PLLISO1	HSYNCIN1	TCK	A22	A17	A18	A10	A12	A7	A1	A4	NC	GND	ROMOE	EXTMCLK	D11	D5	D1	MD28	MDQS3	MD26	AC
AD	GAI2	AVSS33B	BAI2	AVDD331B	PLLISO0	HSYNCIN0	XVDD	TRSTN	EXTRSTEN	A23	FB	A19	A14	A9	A5	RD	EXTINT0	CS1	URESVDD	D14	D15	D10	D6	D2	MD30	VDD25	AD
AE	NC	RAI3	NC	BAI3	DVSS18P	ADCXOUT	NC	TDI	TDO	RESETB	VS1	A20	A15	A11	A6	A2	ROMWE	EXTINT1	NC	URESVSS	D9	D7	D3	D0	MD31	NMI	AE
AF	GAI3	AVDD33REGB0	AVDD33REGB1	DVDD18P	ADCXIN	XVSS	VSS18_33	TESTMODE2	TMS	ADR24B	VS0	A21	A16	A13	A8	A3	WR	CS0	NC	NC	MPLLVDD	DPLLVDD	D13	D12	D8	D4	AF
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	

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Name	Pin(s)	Type	Function
Input Port 0 Red (IN0R[7:0])			Red Pixel Input to Digital Input Port 0. If used with IN1R bus in dual-pixel input mode, this is the even pixel bus.
IN0R9	A7	DIPD	
IN0R8	D9	DIPD	
IN0R7	B8	DIPD	
IN0R6	E12	DIPD	
IN0R5	C9	DIPD	
IN0R4	E13	DIPD	
IN0R3	A8	DIPD	
IN0R2	B9	DIPD	
Input Port 0 Green (IN0G[7:0])			Green Pixel Input to Digital Input Port 0. If used with IN1G bus in dual pixel input mode, this is the even pixel bus.
IN0G9	B6	DIPD	
IN0G8	E8	DIPD	
IN0G7	C7	DIPD	
IN0G6	E9	DIPD	
IN0G5	D8	DIPD	
IN0G4	E10	DIPD	
IN0G3	A6	DIPD	
IN0G2	E11	DIPD	

Name	Pin(s)	Type	Function
Input Port 0 Blue (IN0B[7:0])			Blue Pixel Input to Digital Input Port 0. If used with IN1B bus in dual pixel input mode, this is the even pixel bus.
IN0B9	C5	DIPD	
IN0B8	E7	DIPD	
IN0B7	B4	DIPD	
IN0B6	D6	DIPD	
IN0B5	A3	DIPD	
IN0B4	D7	DIPD	
IN0B3	A4	DIPD	
IN0B2	B5	DIPD	
Input Port 0 Miscellaneous Pins			
IN0VS	A2	DIPD	Vertical Sync for Digital Input Port 0.
IN0HS	B3	DIPD	Synchronous Horizontal Sync for Digital Input Port 0.
IN0AHS	C4	DIPD	Asynchronous Horizontal Sync for Digital Input Port 0.
IN0CLK	C3	DIPD	Clock for Digital Input Port 0
IN0CLP	A1	DIOPD	ADC Clamp Output for Digital Input Port 0. Alternatively can be used as General Purpose I/O PortD[7].
IN0CST	B2	DIOPD	PLL Coast Output for Digital Input Port 0. Alternatively can be used as General Purpose I/O PortD[6]
IN0VBI	E6	DIPD	Vertical Blanking Interval Data Valid for Digital Input Port 0. Refer to for more information on alternate functions for this pin. This pin is shared with IN1VS.
IN0FLD	D5	DIOPD	Odd Field for Main Input Port. Alternatively can be used as General Purpose I/O PortD[5]. This pin is shared with IN1AHS.
IN0PEN	D4	DIPD	Pixel data Enable Digital Input Port 0. This pin is shared with IN1HS.

Name	Pin(s)	Type	Function
Input Port 0 Red (IN1R[7:0])			Red Pixel Input to Digital Input Port 1. Alternatively, can be used as red odd pixel input to Digital Input Port 0 or used as General Purpose I/O PortE[7:0].
IN1R9	E2	DIPD	
IN1R8	D1	DIPD	
IN1R7	E3	DIPD	
IN1R6	D2	DIPD	
IN1R5	C1	DIPD	
IN1R4	E4	DIPD	
IN1R3	D3	DIPD	
IN1R2	E5	DIPD	

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Name	Pin(s)	Type	Function
Input Port 1 Green (IN1G[7:0])			
IN1G9	G1	DIPD	Green Pixel Input to Digital Input Port 1. Alternatively can be used as green odd pixel input to Digital Input Port 0. Can be used as General Purpose I/O PortF[7:0].
IN1G8	G5	DIPD	
IN1G7	G2	DIPD	
IN1G6	F1	DIPD	
IN1G5	G3	DIPD	
IN1G4	F5	DIPD	
IN1G3	F2	DIPD	
IN1G2	E1	DIPD	
Input Port 1 Blue (IN1B[7:0])			
IN1B9	J1	DIPD	Blue Pixel Input to Digital Input Port 1. Alternatively can be used as blue odd pixel input to Digital Input Port 0. Can be used as General Purpose I/O PortG[7:0].
IN1B8	H5	DIPD	
IN1B7	J2	DIPD	
IN1B6	H4	DIPD	
IN1B5	J3	DIPD	
IN1B4	J4	DIPD	
IN1B3	H1	DIPD	
IN1B2	H2	DIPD	
Input Port 1 Miscellaneous Pins			
IN1CLK	K3	DIPD	Clock for Digital Input Port 1.
IN1PEN	K4	DIPD	Pixel data Enable Digital Input Port 1. Alternatively can be used as General Purpose I/O PortD[4].
IN1VS	A2	DIPD	Vertical Sync for Digital Input Port 1. This pin is shared with IN0VBI.
IN1HS	B3	DIPD	Synchronous Horizontal Sync for Digital Input Port 1. This pin is shared with IN0PEN.
IN1AHS	C4	DIPD	Asynchronous Horizontal Sync for Digital Input Port 1. This pin is shared with IN0FLD.
For additional Input Port 1 Miscellaneous pins, see the section, GPIO Port Pins on page 2-13.			

Name	Pin(s)	Type	Function
ADCXIN	AF5	AI	Crystal oscillator.
ADCXOUT	AE6	AO	Crystal oscillator.
ASPECT0	P2	AI	Aspect ratio detect for SCART video source (MUX0)
ASPECT1	P4	AI	Aspect ratio detect for SCART video source (MUX1)
ASPECT2	P5	AI	Aspect ratio detect for SCART video source (MUX2)
HSYNCIN0	AD6	DI	Horizontal Sync Channel 0. (3.3V Tolerant only, not 5V)
HSYNCIN1	AC7	DI	Horizontal Sync Channel 1. (3.3V Tolerant only, not 5V)
VS1	AE11	DIPD	Vertical Sync Channel 1.This signal establishes the vertical timing reference.

Name	Pin(s)	Type	Function
VS0	AF11	DIPD	Vertical Sync Channel 0. This signal establishes the vertical timing reference
FB	AD11	DIPD	SCART Fast Blanking input. Note that external level shifting is required on the board.

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Name	Pin(s)	Type	Function
GMUXIN0	T5	AI	Green channel MUX analog inputs. Selected by the GMUXSEL(1:0) register.
GMUXIN1	T3	AI	
GMUXIN2	R1	AI	
RMUXIN0	R5	AI	Red channel MUX analog inputs. Selected by the RMUXSEL(1:0) register.
RMUXIN1	R3	AI	
RMUXIN2	P1	AI	
BMUXIN0	V5	AI	Blue channel MUX analog inputs. Selected by the BMUXSEL(1:0 register).
BMUXIN1	V3	AI	
BMUXIN2	U1	AI	
SMUXIN0	U5	AI	SOG MUX analog inputs. Selected by the SOGMUXSEL(1:0) register.
SMUXIN1	U3	AI	
SMUXIN2	T1	AI	
RMUXOUT	W2	AO	Red channel MUX output.
BMUXOUT	W4	AO	Blue channel MUX output.
SOG1	AA2	AI	Sync-On-Green Channel 1. This is an input from the analog MUX. This pin should be brought out to a pad to connect to the SOGOUT pin of MUX_SCART.
REXT	P6	AI	Analog input port
RAI1	Y1	AI	Channel 1 Analog Input: • Red/Green/Blue • OR YPrPb • OR Y/C S-Video • OR CVBS Composite Video These high-impedance pins receive analog signals from the image source. For proper operation of the clamp feature, these inputs must be AC-coupled.
GAI1	Y3	AI	
BAI1	AB3	AI	
RAI2	AC2	AI	Channel 2 Analog Input: • Red/Green/Blue • OR YPrPb (Y=Green, Pr=Red, Pb=Blue) • OR Y/C S-Video • OR CVBS Composite Video These high-impedance pins receive analog signals from the image source. For proper operation of the clamp feature, these inputs must be AC-coupled.
GAI2	AD1	AI	
BAI2	AD3	AI	

Name	Pin(s)	Type	Function
RAI3	AE2	AI	Channel 3 Analog Input: • Red/Green/Blue • OR YPrPb • OR Y/C S-Video • OR CVBS Composite Video These high-impedance pins receive analog signals from the image source. For proper operation of the clamp feature, these inputs must be AC-coupled.
GAI3	AF1	AI	
BAI3	AE4	AI	
AISO4	AC1	AI	ANALOG_ISOLATION. Goes to ground.
AISO3	Y2	AI	
AISO2	W1	AI	
AISO1	U4	AI	
AISO0	U2	AI	
PLLISO1	AC6	AI	PLL_ISOLATION. Goes to ground.
PLLISO0	AD5	AI	

Anpec

Name	Pin(s)	Type	Function
Microprocessor Address Pins (A[23:1])			
A23	AD10	DIOPD	Alternatively can be used as General Purpose I/O Port D[3]
A22	AC9	DIOPD	Alternatively can be used as General Purpose I/O Port D[2]
A21	AF12	DIOPD	Alternatively can be used as General Purpose I/O Port D[1]
A20	AE12	DIOPD	Alternatively can be used as General Purpose I/O Port D[0]
A19	AD12	DIOPD	Alternatively enables 8-bit flash mode with a 10K pull-up
A18	AC11	DIOPD	
A17	AC10	DIOPD	
A16	AF13	DIOPD	
A15	AE13	DIOPD	
A14	AD13	DIOPD	
A13	AF14	DIOPD	
A12	AC13	DIOPD	
A11	AE14	DIOPD	
A10	AC12	DIOPD	
A9	AD14	DIOPD	
A8	AF15	DIOPD	
A7	AC14	DIOPD	
A6	AE15	DIOPD	
A5	AD15	DIOPD	
A4	AC16	DIOPD	
A3	AF16	DIOPD	

Name	Pin(s)	Type	Function
A2	AE16	DIOPD	
A1	AC15	DIOPD	
Miscellaneous Microprocessor Pins			
WR	AF17	DIOPD	Microprocessor Write Enable. Low indicates a write to external devices.
RD	AD16	DIOPD	Microprocessor Read Enable. Low indicates a read to external devices.
ROMOE	AC19	DOPD	Microprocessor ROM Output Enable. Low indicates a read from external devices.
ROMWE	AE17	DOPD	Microprocessor ROM Write Enable / Wait State. When in internal CPU mode, a low value indicates a write from ROM. When in external CPU mode, this is the wait state insertion signal.
CS0	AF18	DIOPD	Miscellaneous Chip Select (1:0). Active low output selects external devices when in internal CPU mode.
CS1	AD18	DIOPD	Each chip select decodes a 512-byte block of CPU address space. When additional chip selects are needed, 4 Chip Selects can be generated to split the 1K byte block into four 256-byte regions. • When MISC4CSEN=1, CS(3:2) is mapped to PortB[1:0]. • When in external CPU mode, CS0 is the chip select to our device.
NMI	AE26	DIPD	Microprocessor Non-Maskable Interrupt. Active high input that triggers an interrupt to the internal CPU.
Microprocessor Data Pins (D[15:0])			
D15	AD21	DIOPD	
D14	AD20	DIOPD	
D13	AF23	DIOPD	
D12	AF24	DIOPD	
D11	AC21	DIOPD	
D10	AD22	DIOPD	
D9	AE21	DIOPD	
D8	AF25	DIOPD	
D7	AE22	DIOPD	
D6	AD23	DIOPD	
D5	AC22	DIOPD	
D4	AF26	DIOPD	
D3	AE23	DIOPD	
D2	AD24	DIOPD	
D1	AC23	DIOPD	
D0	AE24	DIOPD	

Arnold

Name	Pin(s)	Type	Function
MCK	T26	DO	Memory Differential Clock
MCKN	T25	DO	

Name	Pin(s)	Type	Function
MCKFBK	R23	DI	Memory Differential Feedback Clock
MCKFBKN	T22	DI	
Memory Address Pins (MA[12:0])			
MA12	T24	DO	
MA11	R26	DO	
MA10	T23	DO	
MA9	P25	DO	
MA8	U22	DO	
MA7	P24	DO	
MA6	U25	DO	
MA5	P23	DO	
MA4	U24	DO	
MA3	P22	DO	
MA2	V26	DO	
MA1	N26	DO	
MA0	R25	DO	
Memory Data Pins (MD[31:0])			
MD31	AE25	DIO	
MD30	AD25	DIO	
MD29	AB23	DIO	
MD28	AC24	DIO	
MD27	AA23	DIO	
MD26	AC26	DIO	
MD25	AB25	DIO	
MD24	AA24	DIO	
MD23	Y23	DIO	
MD22	AB26	DIO	
MD21	Y24	DIO	
MD20	W23	DIO	
MD19	W24	DIO	
MD18	Y26	DIO	
MD17	V23	DIO	
MD16	V22	DIO	
MD15	M24	DIO	
MD14	N22	DIO	
MD13	L25	DIO	
MD12	L24	DIO	
MD11	K25	DIO	
MD10	J26	DIO	
MD9	K24	DIO	
MD8	J25	DIO	
MD7	K23	DIO	
MD6	H26	DIO	
MD5	J24	DIO	

Axiomtek

Name	Pin(s)	Type	Function
MD4	H25	DIO	
MD3	H24	DIO	
MD2	G25	DIO	
MD1	F26	DIO	
MD0	H23	DIO	
Miscellaneous Memory Pins			
MRAS	N25	DO	Memory Row Address Strobe
MCAS	N24	DO	Memory Column Address Strobe
MWE	N23	DO	Memory Write Enable
MCKE	M26	DO	Memory Clock Enable
MDQS3	AC25	DO	Memory Data Qualifier Strobe
MDQS2	AA26	DO	
MDQS1	M22	DO	
MDQS0	L22	DO	
MDM3	AB24	DO	Memory Data Mask
MDM2	Y25	DO	
MDM1	K26	DO	
MDM0	G26	DO	
MBNK1	W26	DO	Memory Bank Select
MBNK0	V24	DO	
MCS	R24	DO	Memory Chip Select

Name	Pin(s)	Type	Function
Display Red Output Pins (DR[7:0])			
DR9	B22	DO	Alternatively can be used as LVDS TXD04– when enabled by LVDSEN.
DR8	A22	DO	Alternatively can be used as LVDS TXD04+ when enabled by LVDSEN.
DR7	B21	DO	Alternatively can be used as LVDS TXD03– when enabled by LVDSEN.
DR6	A21	DO	Alternatively can be used as LVDS TXD03+ when enabled by LVDSEN.
DR5	A24	DO	Alternatively can be used as LVDS TXD02– when enabled by LVDSEN.
DR4	A23	DO	Alternatively can be used as LVDS TXD02+ when enabled by LVDSEN.
DR3	B23	DO	Alternatively can be used as LVDS TXD0C– when enabled by LVDSEN.
DR2	B24	DO	Alternatively can be used as LVDS TXD0C+ when enabled by LVDSEN.
Display Green Output Pins (DG[7:0])			
DG9	A18	DO	Alternatively can be used as LVDS TXD01– when enabled by LVDSEN or Y9 when enabled by the D422EN register.
DG8	B18	DO	Alternatively can be used as LVDS TXD01+ when enabled by LVDSEN or Y8 when enabled by the D422EN register.
DG7	A19	DO	Alternatively can be used as LVDS TXD00– when enabled by LVDSEN or Y7 when enabled by the D422EN register.

Name	Pin(s)	Type	Function
RESETB	AE10	DIOPU	Reset. Active low signal to reset the entire chip. • When EXTRSTEN=1, this is an input. • When EXTRSTEN=0, RESETB is an open collector I/O from the internal reset generator and can be used to reset other devices in the system, and as a reset input which is debounced by the reset generator.
TRSTN	AD8	DIPD	JTAG Debugger Reset (Active Low)

Aimoil

Name	Pin(s)	Type	Function
DG6	B19	DO	Alternatively can be used as LVDS TXD00+ when enabled by LVDSEN or Y6 when enabled by the D422EN register.
DG5	A20	DO	Alternatively can be used as LVDS TXDE4– when enabled by LVDSEN or Y5 when enabled by the D422EN register.
DG4	B20	DO	Alternatively can be used as LVDS TXDE4+ when enabled by LVDSEN or Y4 when enabled by the D422EN register.
DG3	C19	DO	Alternatively can be used as LVDS TXDE3– when enabled by LVDSEN or Y3 when enabled by the D422EN register.
DG2	C20	DO	Alternatively can be used as LVDS TXDE3+ when enabled by LVDSEN or Y2 when enabled by the D422EN register.
Display Blue Output Pins (DB[7:0])			
DB9	A14	DO	Alternatively can be used as LVDS TXDE2– when enabled by LVDSEN or UV9 when enabled by the D422EN register.
DB8	B14	DO	Alternatively can be used as LVDS TXDE2+ when enabled by LVDSEN or UV8 when enabled by the D422EN register.
DB7	A15	DO	Alternatively can be used as LVDS TXDEC– when enabled by LVDSEN or UV7 when enabled by the D422EN register.
DB6	B15	DO	Alternatively can be used as LVDS TXDEC+ when enabled by LVDSEN or UV6 when enabled by the D422EN register.
DB5	A16	DO	Alternatively can be used as LVDS TXDE1– when enabled by LVDSEN or UV5 when enabled by the D422EN register.
DB4	B16	DO	Alternatively can be used as LVDS TXDE1+ when enabled by LVDSEN or UV4 when enabled by the D422EN register.
DB3	A17	DO	Alternatively can be used as LVDS TXDE0– when enabled by LVDSEN or UV3 when enabled by the D422EN register.
DB2	B17	DO	Alternatively can be used as LVDS TXDE0+ when enabled by LVDSEN or UV2 when enabled by the D422EN register.
Miscellaneous Display Port Pins			
DVS	C16	DIOPD	Display Vertical Sync Output.
DHS	D15	DIOPD	Display Horizontal Sync Output.
DEN	C15	DIOPD	Display Data Enable Output.
DCLKOUT	C14	DOPD	Display Clock Output
RPIATEST	E23	AIO	RPI for LVDS Transmitter

Name	Pin(s)	Type	Function
TMS	AF9	DIPD	JTAG Debugger Mode Select
TDI	AE8	DIPD	JTAG Debugger Data Input
TDO	AE9	DOPD	JTAG Debugger Data Output
TCK	AC8	DIPD	JTAG Debugger Clock
MODE2	AF8	DIPD	Used to configure the chips' mode of operation—see Table 2-9, on page 2-12
MODE1	AA8	DIPD	
MODE0	AB8	DIPD	
EXTMCLK	AC20	DIPD	External Access to Memory Clock
EXTRSTEN	AD9	DIPD	External Reset Enable
ADR24B	AF10	DIPD	24-bit Microprocessor Address Enable

Name	Pin(s)	Type	Function
Slow ADC Input Pins ADC[7:0]			
ADC7	E25	AI	
ADC6	D26	AI	
ADC5	E22	AI	
ADC4	F23	AI	
ADC3	E24	AI	
ADC2	D25	AI	
ADC1	C26	AI	
ADC0	D24	AI	

Archived

Name	Pin(s)	Type	Function
Slow DAC Output Pins DAC[3:0]			
DAC3	J22	AO	
DAC2	F25	AO	
DAC1	E26	AO	
DAC0	H22	AO	

Name	Pin(s)	Type	Function
GPIO Port A Pins (PORTA[7:0])			
PORTA7	N4	DIOPU	
PORTA6	N3	DIOPU	
PORTA5	N2	DIOPU	
PORTA4	N5	DIOPU	
PORTA3	N1	DIOPU	
PORTA2	N6	DIOPU	
PORTA1	M2	DIOPU	Alternatively used as microprocessor BHEN input for external CPU mode.
PORTA0	M1	DIOPU	Alternatively used as microprocessor address bit 0 input for external CPU mode.
GPIO Port B Pins (PORTB[7:0])			
PORTB7	L3	DIOPD	Alternatively used as Display Field Output when driving interlaced out, or as an external display clock input.
PORTB6	L2	DIOPD	
PORTB5	L1	DIOPD	

Name	Pin(s)	Type	Function
PORTB4	L4	DIOPD	
PORTB3	K1	DIOPD	
PORTB2	M4	DIOPD	
PORTB1	K2	DIOPD	
PORTB0	M3	DIOPD	
GPIO Port C Pins (PORTC[7:0])			
PORTC7	C11	DIOPU	
PORTC6	B11	DIOPU	
PORTC5	A11	DIOPU	Alternatively used as Digital Input Port 1 ADC Clamp Output
PORTC4	E14	DIOPU	Alternatively used as Digital Input Port 1 Coast Output
PORTC3	D12	DIOPU	
PORTC2	C12	DIOPU	
PORTC1	B12	DIOPU	
PORTC0	E15	DIOPU	

Name	Pin(s)	Type	Function
PWM0	A10	DIOPD	Pulse Width Modulation Outputs
PWM1	D11	DIOPD	
PWM2	B10	DIOPD	
PWM3	C10	DIOPD	

Name	Pin(s)	Type	Function
TWOWSD2	C18	DIOPD	2-Wire Serial Data 2 Alternatively can be used as Port H
TWOWSD1	D21	DIOPD	2-Wire Serial Data 1 Alternatively can be used as Port H
TWOWSD0	C22	DIOPD	2-Wire Serial Data 0 Alternatively can be used as Port H
TWOWSC2	D17	DIOPD	2-Wire Serial Clock 2 Alternatively can be used as Port H
TWOWSC1	C21	DIOPD	2-Wire Serial Clock 1 Alternatively can be used as Port H
TWOWSC0	D20	DIOPD	2-Wire Serial Clock 0 Alternatively can be used as Port H

Anno

Name	Pin(s)	Type	Function
THRWSC	E19	DOPU	3-Wire Serial Clock

Name	Pin(s)	Type	Function
Infrared Receiver Pins			
IRRCVR0	C24	DIOPU	

Name	Pin(s)	Type	Function
RXD1	A26	DIPU	UART 2 Receiver / 3-Wire Serial Data Enable
RXD0	E20	DIPU	UART 1 Receiver Alternatively can be used as TWOSD3 or PORTH0
TXD1	D22	DOPU	UART 2 Transceiver / 3-Wire Serial Data
TXD0	B25	DOPU	UART 1 Transceiver Alternatively can be used as TWOSC3 or PORTH1

Name	Pin(s)	Type	Function
EXTINT1	AE18	DIOPD	External Interrupt 1
EXTINT0	AD17	DIOPD	External Interrupt 0

Name	Pin(s)	Type	Function
I2S Input Data Pins			
I2SID1	A13	DIPD	Alternatively can be used as General Purpose I/O PORTI[1]
I2SID0	D14	DIPD	Alternatively can be used as General Purpose I/O PORTI[0]
I2S Input Write Strobe Pins			
I2SIWS1	E17	DIPD	Alternatively can be used as General Purpose I/O PORTI[4]
I2SIWS0	E18	DIPD	Alternatively can be used as General Purpose I/O PORTI[3]

Name	Pin(s)	Type	Function
I2S Input Clock Pins			
I2SICLK1	C13	DIPD	I2S Input Clock Pins
I2SICLK0	D13	DIPD	
I2S Output Pins			
I2SOD	B13	DOPD	I2S Output Data. Alternatively can be used as General Purpose I/O PORTI[2]
I2SOWS	E16	DOPD	I2S Output Word Select. Alternatively can be used as General Purpose I/O PORTI[5]
I2SOCLK	A12	DOPD	I2S Output Clock

Anlo1

Name	Pin(s)	Type	Function
ADCVDD	C25	DP	Digital power for slow ADC
ADCVSS	B26	DP	Digital ground for slow ADC
DACVDD	F24	DP	Digital power for slow DAC
DACVSS	G23	DG	Digital ground for slow DAC
AMVDD331	R4	AP	Analog 3.3V power for MUX
AMVSS331	T4	AG	Analog 3.3V ground for MUX
AMVDD330	R2	AP	Analog 3.3V power for MUX
AMVSS330	T2	AG	Analog 3.3V ground for MUX
AMVDD18	P3	AP	Analog 1.8V power for MUX
AVDDP	AB5	AP	Analog 3.3V power supply for PLL.
AVSSP	AC5	AG	Analog ground for PLL.
XVDD	AD7	AP	Analog supply (3.3V) for crystal oscillator.
XVSS	AF6	AG	Analog ground for crystal oscillator.
DVDD18ADC	AA6	AP	Analog power for the Digital section of the AFE
DVSS18ADC	AB6	AG	Analog ground for the Digital section of the AFE
DVDD18P	AF4	AP	Digital 1.8V supply for PLL.
DVSS18P	AE5	AP	Digital 1.8V ground for PLL.
DPLLVDD	AF22	DP	Digital 1.8V power for DCLK generator
DPLLVSS	AB17	DG	Digital ground for DCLK generator
MPLLVDD	AF21	DP	Digital 1.8V power for MCLK generator
MPLLVSS	AB18	DG	Digital ground for MCLK generator
URESVDD	AD19	DP	Digital 3.3V power for PLL ESD
URESVSS	AE20	DG	Digital ground for PLL ESD
VDD_33E1	AA7	AP	Supply 1 for ESD for all analog
VSS_33E1	AB7	AG	Ground 1 for ESD for all analog
RREGOUT	T6	AO	Red ADC channel internal 1.8V regulator output
AVSS181R1	V2	AG	Analog ground for Red channel.
AVSS181R0	V4	AG	
GREGOUT	Y4	AO	Green ADC channel intern.al 1.8V regulator output

Name	Pin(s)	Type	Function
AVSS181G1	AA3	AG	Analog ground for Green channel.
AVSS181G0	AA4	AG	
BREGOUT	Y6	AO	Blue ADC channel internal 1.8V regulator output
AVSS181B1	AC3	AG	Analog ground for Blue channel.
AVSS181B0	AC4	AG	
AVDDR18	U6	AP	Red ADC Channel 1.8V power. Connect to RREGOUT.
AVSSR	R6	AG	Analog ground and power regulator for Red channel.
AVDDG18	Y5	AP	Green ADC Channel 1.8V power. Connect to GREGOUT.
AVSSG	V1	AG	Analog ground and power regulator for Green channel.
AVDDB18	AA5	AP	Blue ADC Channel 1.8V power. Connect to BREGOUT.
AVSSB	Y7	AG	Analog ground and power regulator for Blue channel.
AVDD33REGR1	W5	AP	Analog power for Red channel Regulator.
AVDD33REGR0	W6	AP	
AVDD33REGG1	AB2	AP	Analog power for Green channel Regulator.
AVDD33REGG0	AB1	AP	
AVDD33REGB1	AF3	AP	Analog power for Blue channel Regulator.
AVDD33REGB0	AF2	AP	
AVDD331R	V6	AP	Analog power for Red channel 3.3V section.
AVSS33R	W3	AG	Analog ground for Red channel.
AVDD331G1	AA1	AP	Analog power for Green channel 3.3V section.
AVSS33G	AB4	AG	Analog ground for Green channel.
AVDD331B	AD4	AP	Analog power for Blue channel 3.3V section.
AVSS33B	AD2	AG	Analog ground for Blue channel.
VDD33	F9-F10, F14-F16, L5-L6, M5-M6, AA10-AA12, AA16-AA18, AB10-AB12		Power for 3.3V
VDD18	F6-F8, F11-F13, F17-F21, G6, H6, J5-J6, K5-K6, AA9, AB9, AA13-AA15, AA19-AA22, AB13-AB15, AB19-AB22		Power for 1.8V
VSS18_33	AF7, G7, G20, K10-K16, L10-L15, M10-M14, N10-N14, P10-P14, R10-R14, T10-T15, U10-U16, Y20	GND	Ground for 1.8V and 3.3V

ALPHA

Name	Pin(s)	Type	Function
VDD25	F22, G21-G22, H21, J21, J23, K21, L21, L23, M21, M25, N21, P21, P26, R21-R22, T21, U21, U26, V21, W21-W22, W25, Y21-Y22, AA25, AD26		Power for 2.5V
VSS25	K17, L16-L17, M15-M17, N15-N17, P15-P17, R15-R17, T16-T17, U17	GND	Ground for 2.5V
MREFIN0	L26	DI	Memory Voltage Reference. These two pins should be tied together and pulled to GND with a 1K resistor and to VDD25 with a 1K resistor.
MREFIN1	V25	DI	
MDSKVDD	K22	DP	Memory Deskew PLL Power
MDSKVSS	G24	DG	Memory Deskew PLL Ground
MREFGND0	M23	DG	Digital Ground for External Memory
MREFGND1	U23	DP	Ground for External Memory
NC	AB16, AC17, AC18, AE19, AF19, AF20		Do not connect.
NC	D23, E21		No Connect
NC	A5, A9, A25, B1, B7, C2, C6, C8, C17, C23, D10, D16, D18, D19, F3, F4, H3, G4		No Connect
NC	AE1, AE3, AE7		No Connect

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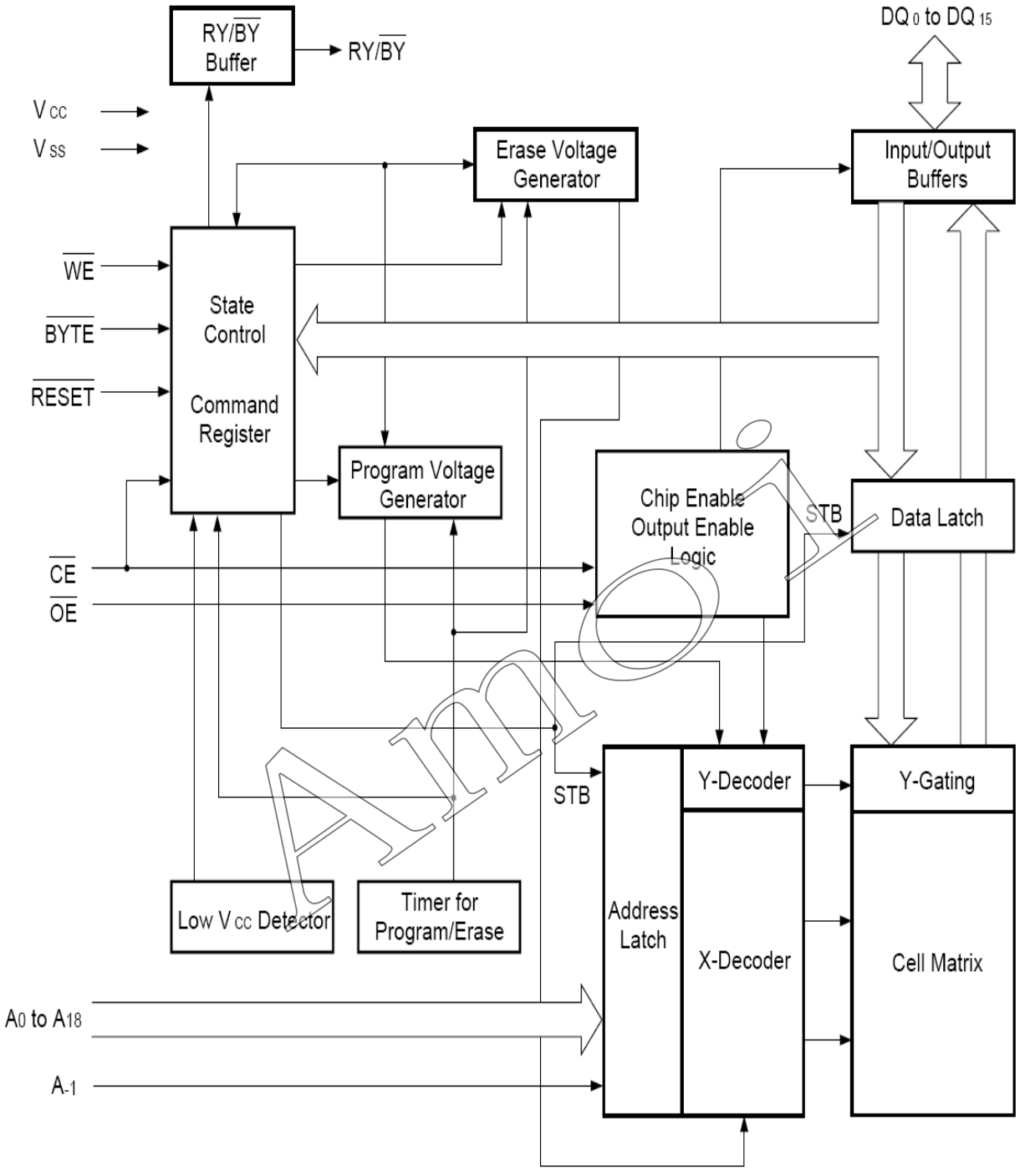
IC 29LV800TA



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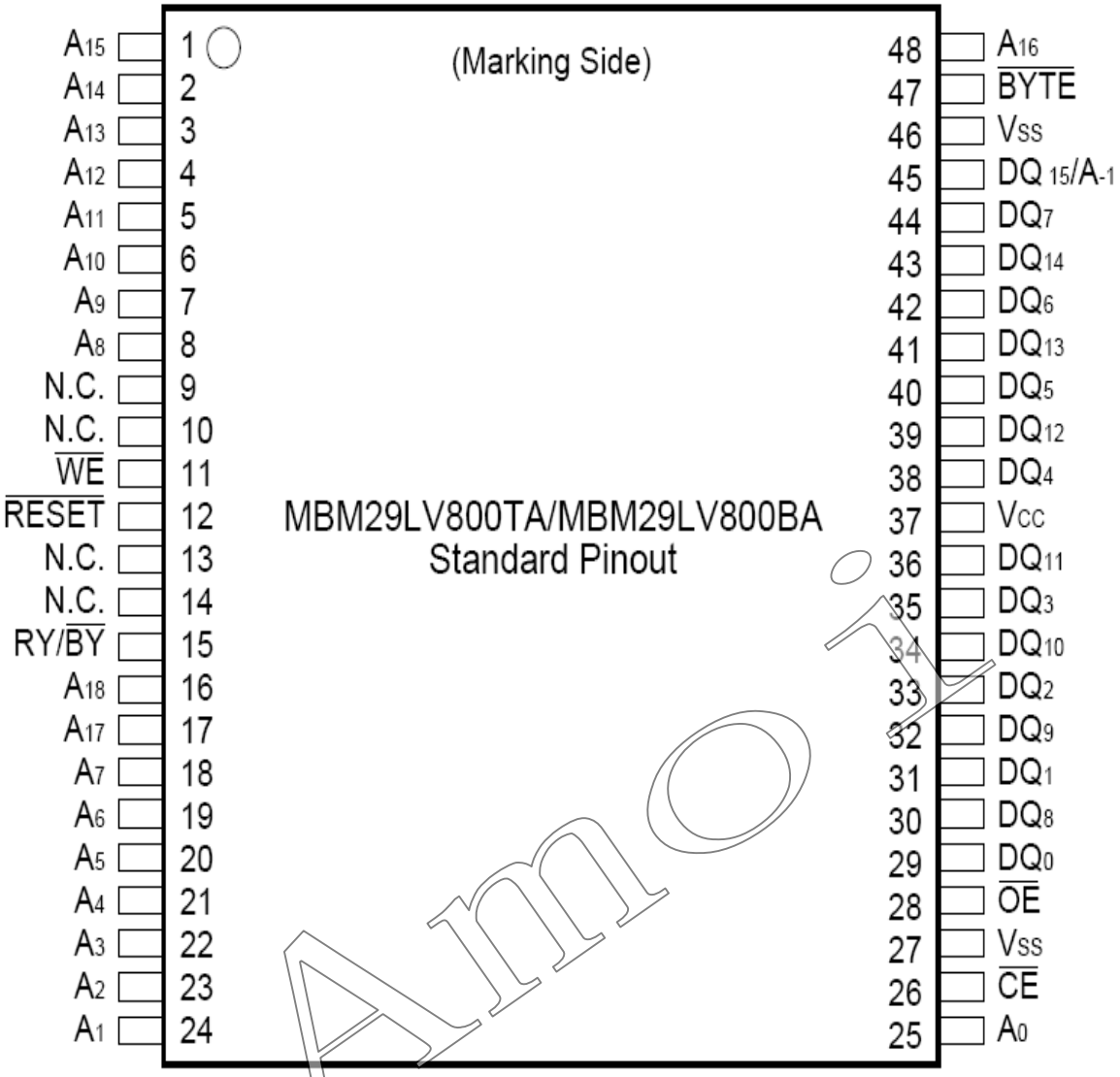

1. A_{15}	**13. N.C.**	**25. A_0**	**37. V_{CC}**
2. A_{14}	**14. N.C.**	**26. $\overline{CE}$**	**38. DQ_4**
3. A_{13}	**15. RY/$\overline{BY}$**	**27. V_{SS}**	**39. DQ_{12}**
4. A_{12}	**16. A_{18}**	**28. $\overline{OE}$**	**40. DQ_5**
5. A_{11}	**17. A_{17}**	**29. DQ_0**	**41. DQ_{13}**
6. A_{10}	**18. A_7**	**30. DQ_8**	**42. DQ_6**
7. A_9	**19. A_6**	**31. DQ_1**	**43. DQ_{14}**
8. A_8	**20. A_5**	**32. DQ_9**	**44. DQ_7**
9. N.C.	**21. A_4**	**33. DQ_2**	**45. DQ_{15}/A_{-1}**
10. N.C.	**22. A_3**	**34. DQ_{10}**	**46. V_{SS}**
11. $\overline{WE}$	**23. A_2**	**35. DQ_3**	**47. $\overline{BYTE}$**
12. $\overline{RESET}$	**24. A_1**	**36. DQ_{11}**	**48. A_{16}**

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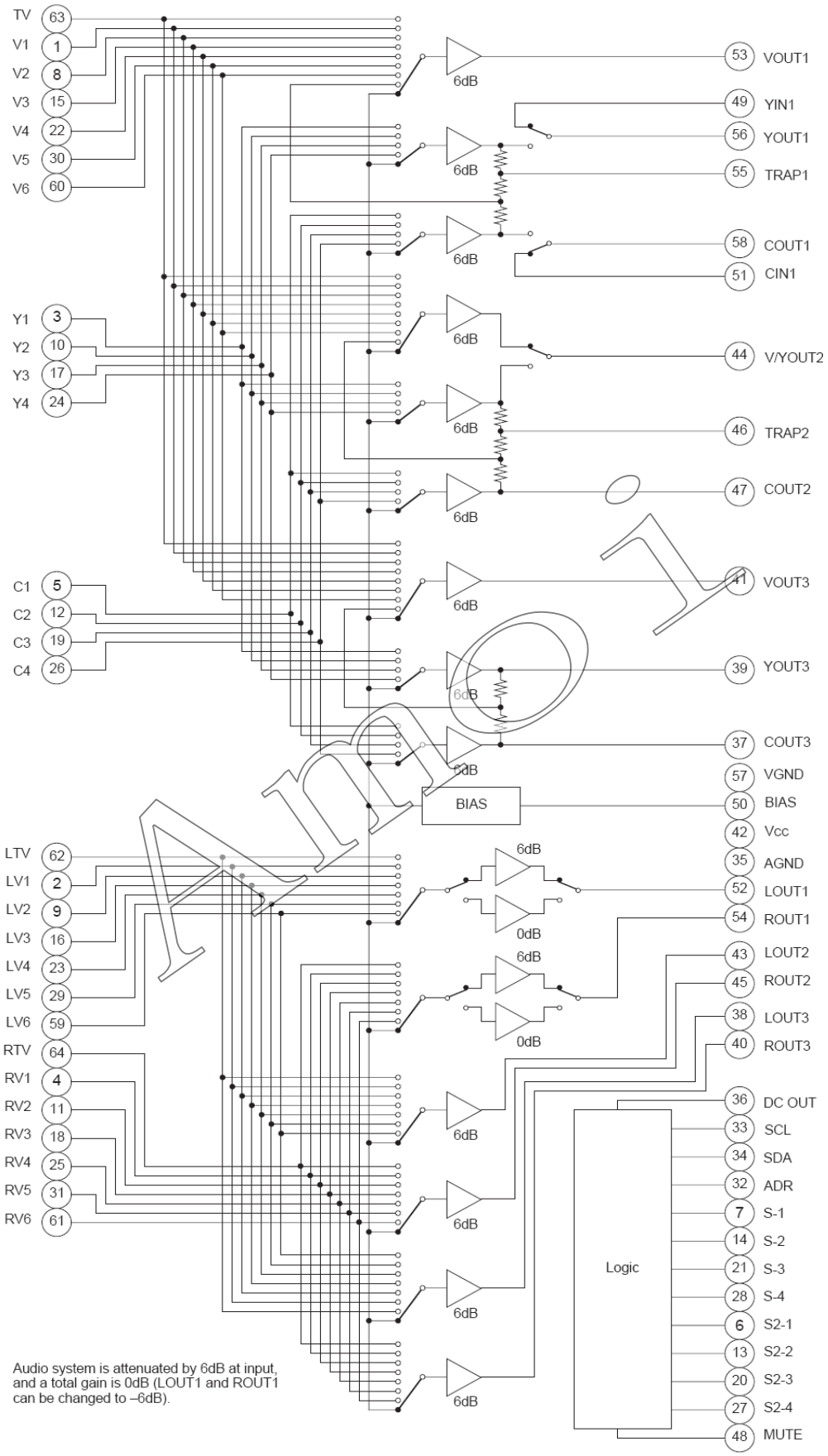
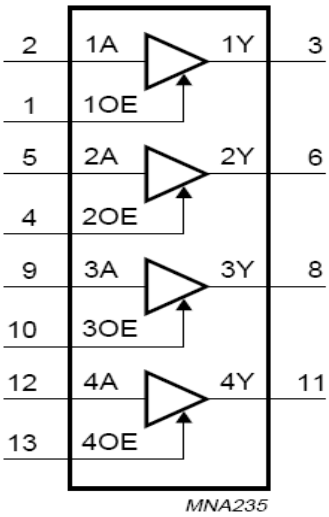
IC CXA2069Q

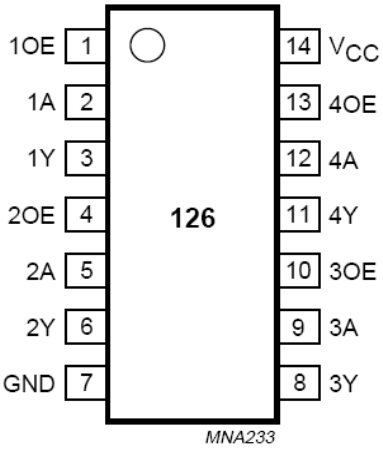

TV 63
V1 1
V2 8
V3 15
V4 22
V5 30
V6 60
Y1 3
Y2 10
Y3 17
Y4 24
C1 5
C2 12
C3 19
C4 26
LTV 62
LV1 2
LV2 9
LV3 16
LV4 23
LV5 29
LV6 59
RTV 64
RV1 4
RV2 11
RV3 18
RV4 25
RV5 31
RV6 61
6dB
0dB
BIAS
Logic
53 VOUT1
49 YIN1
56 YOUT1
55 TRAP1
58 COUT1
51 CIN1
44 V/YOUT2
46 TRAP2
47 COUT2
41 VOUT3
39 YOUT3
37 COUT3
57 VGND
50 BIAS
42 Vcc
35 AGND
52 LOUT1
54 ROUT1
43 LOUT2
45 ROUT2
38 LOUT3
40 ROUT3
36 DC OUT
33 SCL
34 SDA
32 ADR
7 S-1
14 S-2
21 S-3
28 S-4
6 S2-1
13 S2-2
20 S2-3
27 S2-4
48 MUTE
Audio system is attenuated by 6dB at input, and a total gain is 0dB (LOUT1 and ROUT1 can be changed to –6dB).

1. V1	**17. Y3**	**33. SCL**	**49. YIN1**
2. LV1	**18. RV3**	**34. SDA**	**50. BIAS**
3.Y1	**19. C3**	**35. AGND**	**51. CIN1**
4. RV1	**20. S2-3**	**36. DC OUT**	**52. LOUT1**
5. C1	**21. S-3**	**37. COUT3**	**53. VOUT1**
6. S2-1	**22. V4**	**38. LOUT3**	**54. ROUT1**
7. S-1	**23. LV4**	**39. YOUT3**	**55. TRAP1**
8. V2	**24. Y4**	**40. ROUT3**	**56. YOUT1**
9. LV2	**25. RV4**	**41. VOUT3**	**57. VGND**
10. Y2	**26. C4**	**42. Vcc**	**58. COUT1**
11. RV2	**27. S2-4**	**43. LOUT2**	**59. LV6**
12. C2	**28. S-4**	**44. V/YOUT2**	**60. V6**
13. S2-2	**29. LV5**	**45. ROUT2**	**61. RV6**
14. S-2	**30. V5**	**46. TRAP2**	**62. LTV**
15. V3	**31. RV5**	**47. COUT2**	**63. TV**
16. LV3	**32. ADR**	**48. MUTE**	**64. RTV**

Amol

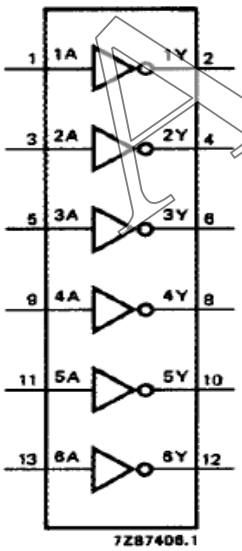
IC 74LV126

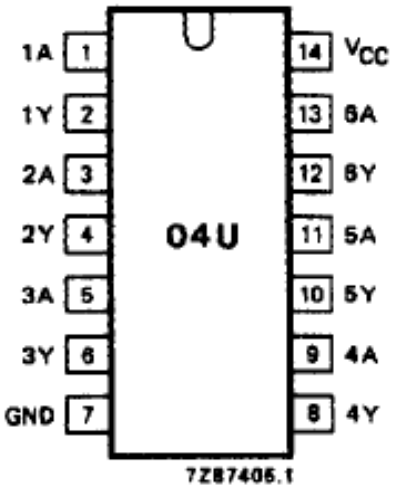




1. 1OE	**5. 2A**	**9. 3A**	**13. 4OE**
2. 1A	**6. 2Y**	**10. 3OE**	**14. VCC**
3. 1Y	**7. GND**	**11. 4Y**	
4. 2OE	**8. 3Y**	**12. 4A**	

IC 74HC04

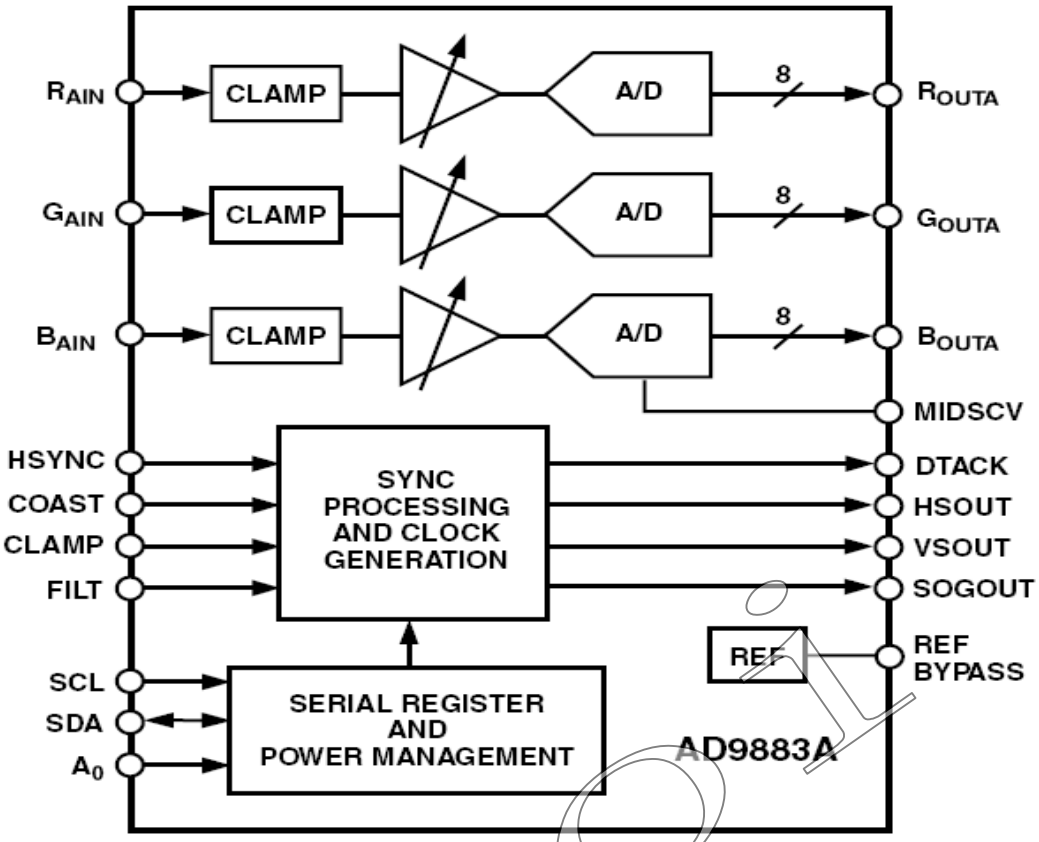


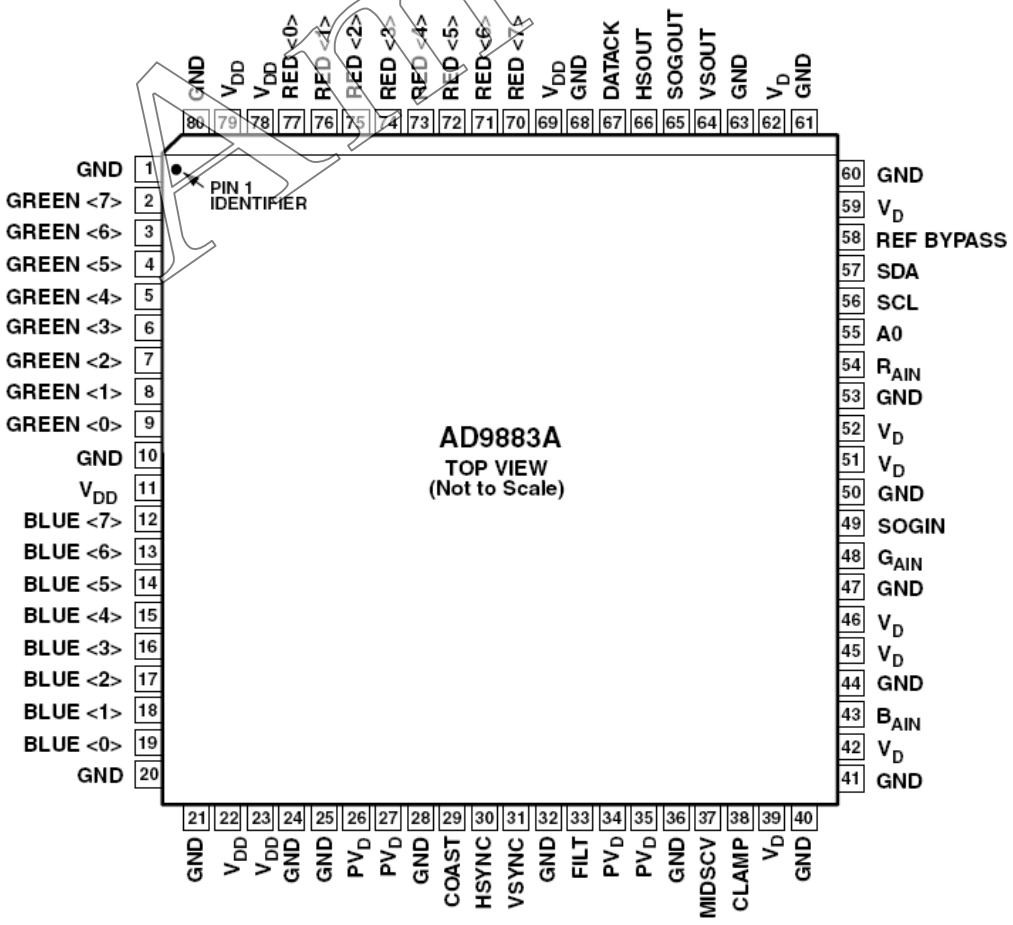


1. 1A	**5. 3A**	**9. 4A**	**13. 6A**
2. 1Y	**6. 3Y**	**10. 5Y**	**14. VCC**
3. 2A	**7. GND**	**11. 5A**	
4. 2Y	**8. 4Y**	**12. 6Y**	

Amoi

IC AD9883



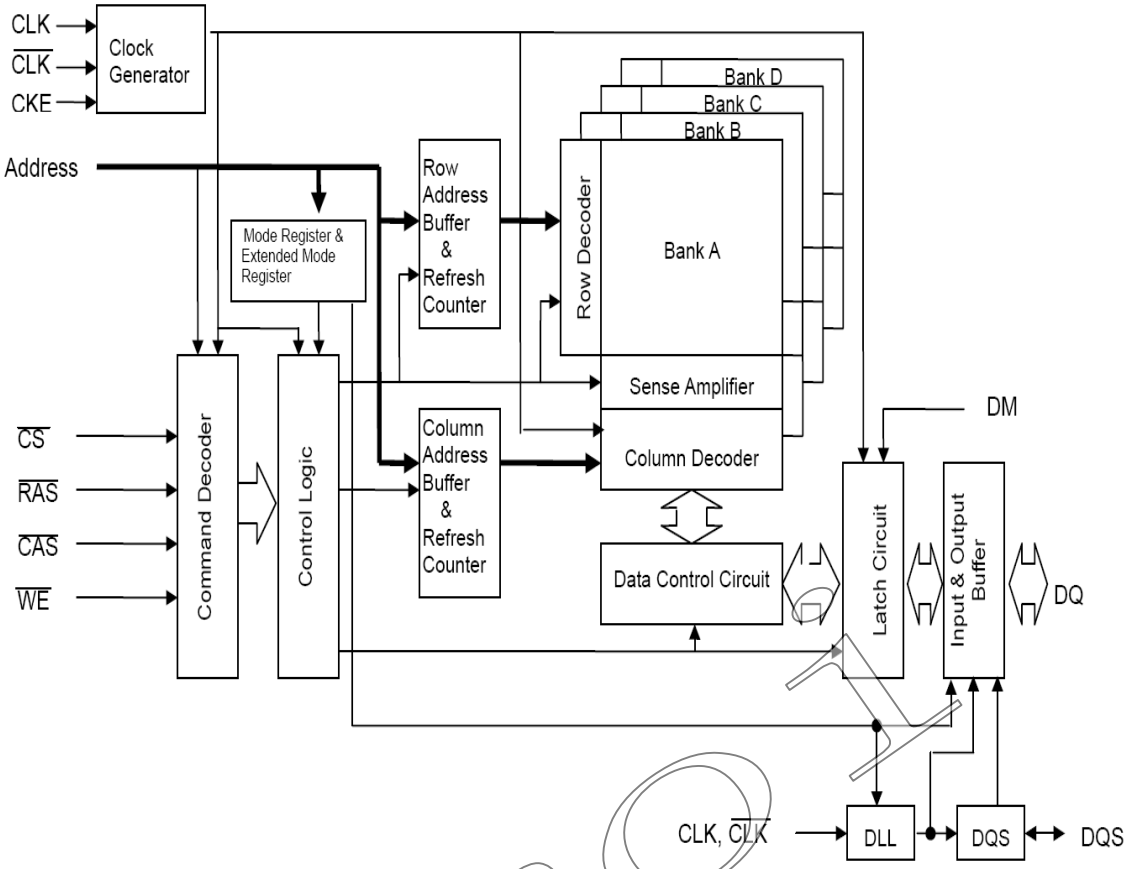


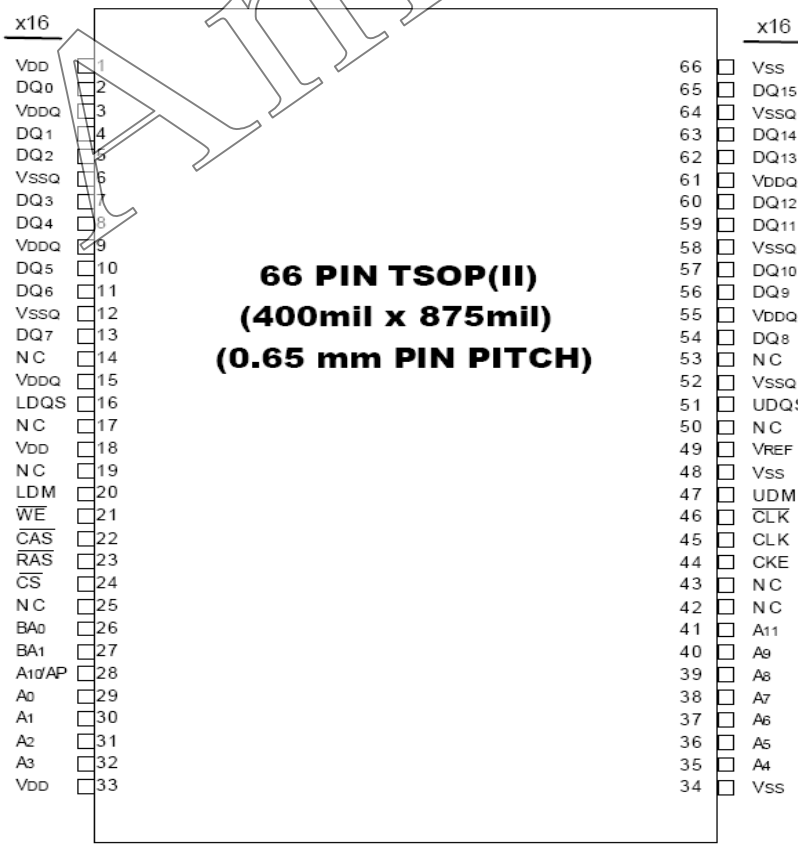
ANOL

1. GND	**21. GND**	**41. GND**	**61. GND**
2. GREEN<7>	**22. VDD**	**42. VD**	**62. VD**
3. GREEN<6>	**23. VDD**	**43. BAIN**	**63. GND**
4. GREEN<5>	**24. GND**	**44. GND**	**64. VSOUT**
5. GREEN<4>	**25. GND**	**45. VD**	**65. SOGOUT**
6. GREEN<3>	**26. PVD**	**46. VD**	**66. HSOUT**
7. GREEN<2>	**27. PVD**	**47. GND**	**67. DATACK**
8. GREEN<1>	**28. GND**	**48. GAIN**	**68. GND**
9. GREEN<0>	**29. COAST**	**49. SOGIN**	**69. VDD**
10. GND	**30. HSYNC**	**50. GND**	**70. RED<7>**
11. VDD	**31. VSYNC**	**51. VD**	**71. RED<6>**
12. BLUE<7>	**32. GND**	**52. VD**	**72. RED<5>**
13. BLUE<6>	**33. FILT**	**53. GND**	**73. RED<4>**
14. BLUE<5>	**34. PVD**	**54. RAIN**	**74. RED<3>**
15. BLUE<4>	**35. PVD**	**55. A0**	**75. RED<2>**
16. BLUE<3>	**36. GND**	**56. SCL**	**76. RED<1>**
17. BLUE<2>	**37. MIDSCV**	**57. SDA**	**77. RED<0>**
18. BLUE<1>	**38. CLAMP**	**58. REF BYPASS**	**78. VDD**
19. BLUE<0>	**39. VD**	**59. VD**	**79. VDD**
20. GND	**40. GND**	**60. GND**	**80. GND**

Amoi

IC M13S128168A



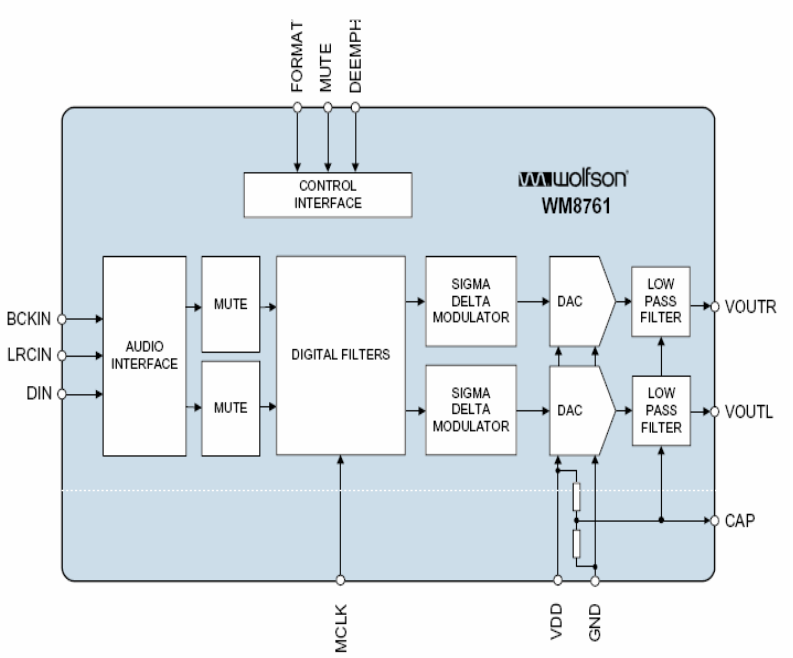


Aimo

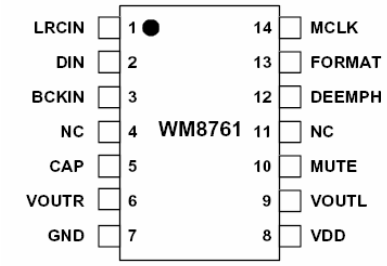
Pin Name	Function	Pin Name	Function
A0~A11, BA0,BA1	Address inputs - Row address A0~A11 - Column address A0~A8 A10/AP : AUTO Precharge BA0, BA1 : Bank selects (4 Banks)	LDM, UDM	DM is an input mask signal for write data. LDM corresponds to the data on DQ0~DQ7; UDM correspond to the data on DQ8~DQ15.
DQ0~DQ15	Data-in/Data-out	CLK, $\overline{CLK}$	Clock input
$\overline{RAS}$	Row address strobe	CKE	Clock enable
$\overline{CAS}$	Column address strobe	$\overline{CS}$	Chip select
$\overline{WE}$	Write enable	V_{DDQ}	Supply Voltage for GDQ
V_{SS}	Ground	V_{SSQ}	Ground for DQ
V_{DD}	Power	V_{REF}	Reference Voltage for SSTL-2
LDQS, UDQS	Bi-directional Data Strobe. LDQS corresponds to the data on DQ0~DQ7; UDQS correspond to the data on DQ8~DQ15.	NC	No connection

Amoi

IC WM8761



PIN CONFIGURATION



1. LRCIN	**5. CAP**	**9. VOUTL**	**13. FORMAT**
2. DIN	**6. VOUTR**	**10. MUTE**	**14. MCLK**
3. BCKIN	**7. GND**	**11. NC**	
4. NC	**8. VDD**	**12. DEEMPH**	

Amoi

IC LX1722

BLOCK DIAGRAM

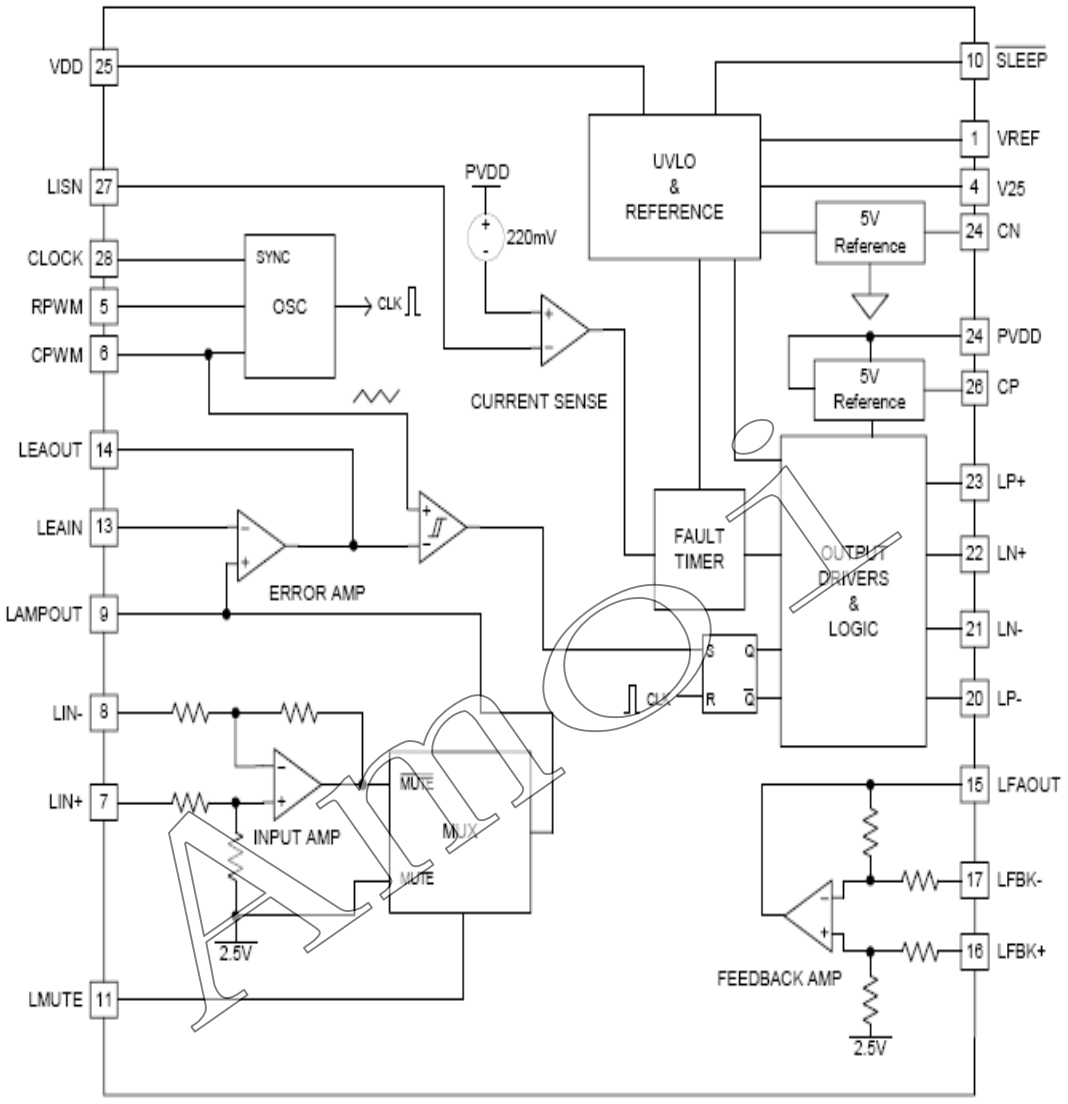
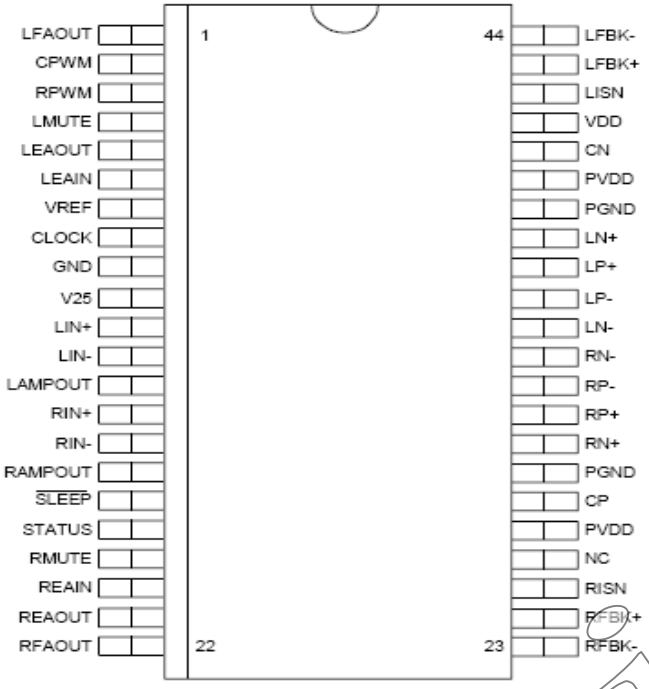


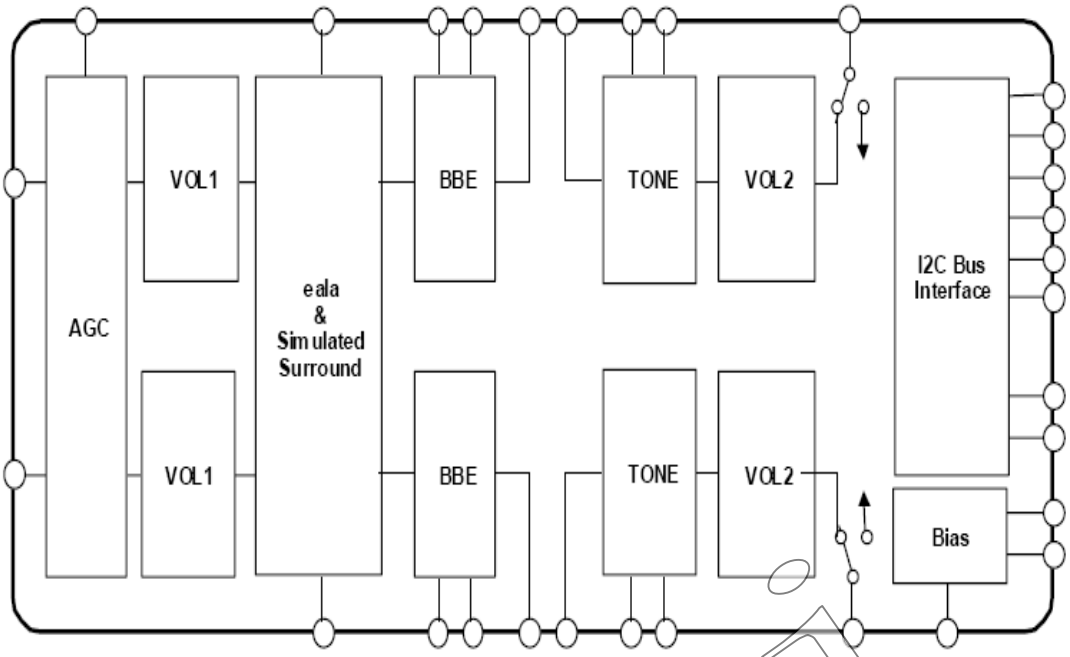
FIGURE 1 – LX1721 / 22 SIMPLIFIED BLOCK DIAGRAM (LEFT CHANNEL CIRCUIT SHOWN)

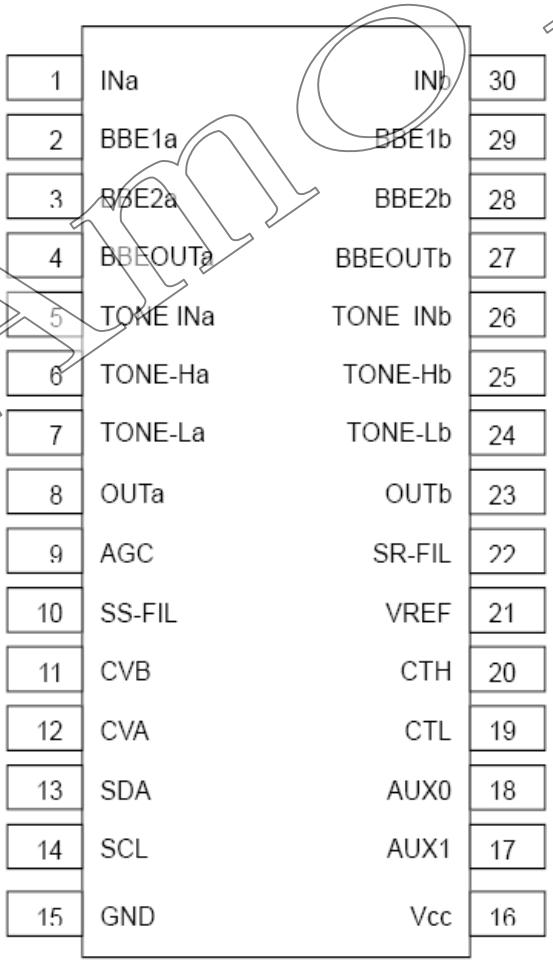


1. LFAOUT	**12. LIN-**	**23. RFBK-**	**34. LN-**
2. CPWM	**13. LAMPOUT**	**24. RFBK+**	**35. LP-**
3. RPWM	**14. RIN+**	**25. RISN**	**36. LP+**
4. LMUTE	**15. RIN-**	**26. NC**	**37. LN+**
5. LEAOUT	**16. RAMPOUT**	**27. PVDD**	**38. PGND**
6. LEAIN	**17. SLEEP**	**28. CP**	**39. PVDD**
7. VREF	**18. STATUS**	**29. PGND**	**40. CN**
8. CLOCK	**19. RMUTE**	**30. RN+**	**41. VDD**
9. GND	**20. REAIN**	**31. RP+**	**42. LISN**
10. V25	**21. REAOUT**	**32. RP-**	**43. LFBK+**
11. LIN+	**22. RFAOUT**	**33. RN-**	**44. LFBK-**

ADI

IC NJ1137



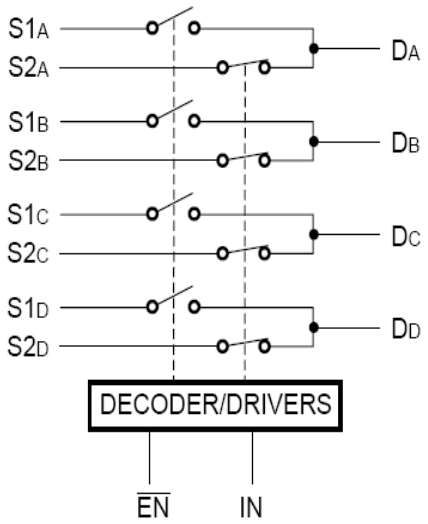


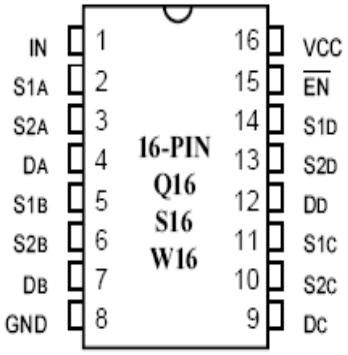
AMOI

1. INa	**9. AGC**	**17. AUX1**	**25. TONE-Hb**
2. BBE1a	**10. SS-FIL**	**18. AUX0**	**26. TONE INb**
3. BBE2a	**11. CVB**	**19. CTL**	**27. BBEOUTb**
4. BBEOUTa	**12. CVA**	**20. CTH**	**28. BBE2b**
5. TONE Ina	**13. SDA**	**21. VREF**	**29. BBE1b**
6. TONE-Ha	**14. SCL**	**22. SR-FIL**	**30. INb**
7. TONE-La	**15. GND**	**23. OUTb**	
8. OUTa	**16. VCC**	**24. TONE-Lb**	

Amoi

IC PI5V330Q



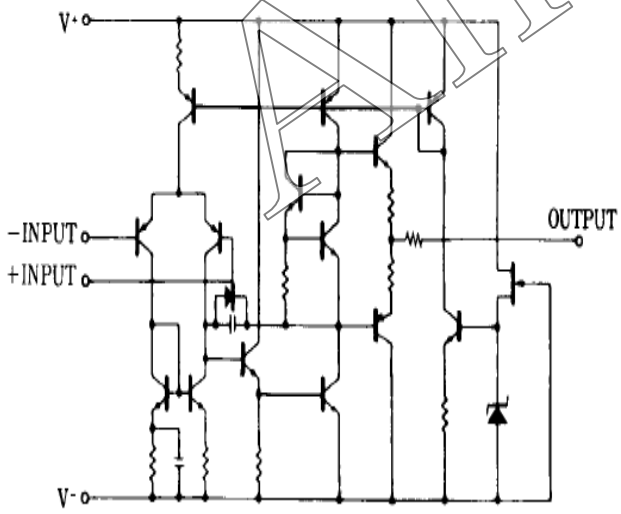


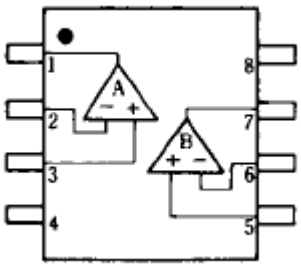
Truth Table

$\overline{EN}$	IN	ON Switch
0	0	S1A, S1B, S1C, S1D
0	1	S2A, S2B, S2C, S2D
1	X	Disabled

1. IN	5. S1B	9. DC	13. S2D
2. S1A	6. S2B	10. S2C	14. S1D
3. S2A	7. DB	11. S1C	15. $\overline{EN}$
4. DA	8. GND	12. DD	16. VCC

IC NJM4558



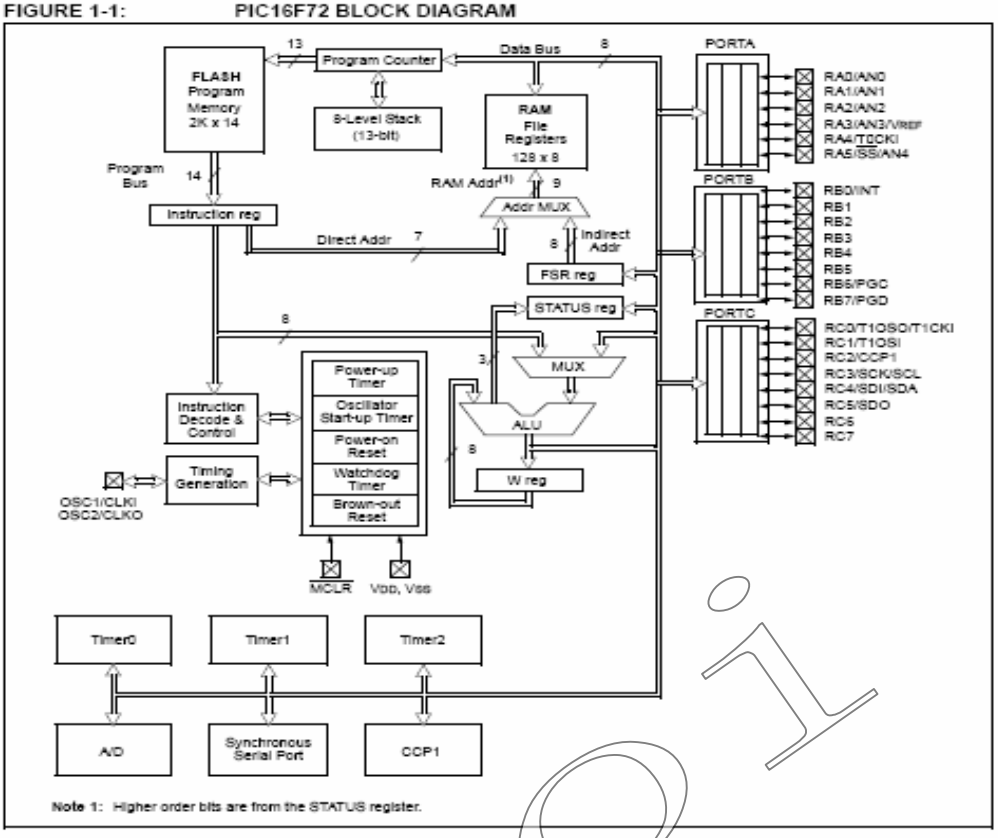


1. A OUTPUT	3. A+INPUT	5. B+INPUT	7. B OUTPUT
2. A-INPUT	4. V-	6. B-INPUT	8. V+

AmOI

IC PIC16F72

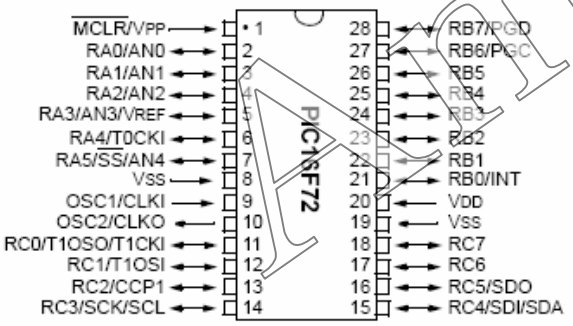
FIGURE 1-1: PIC16F72 BLOCK DIAGRAM

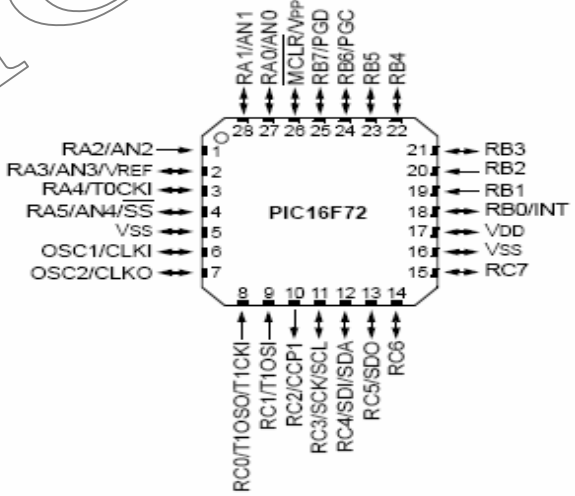


Note 1: Higher order bits are from the STATUS register.

MLF

PDIP, SOIC, SSOP

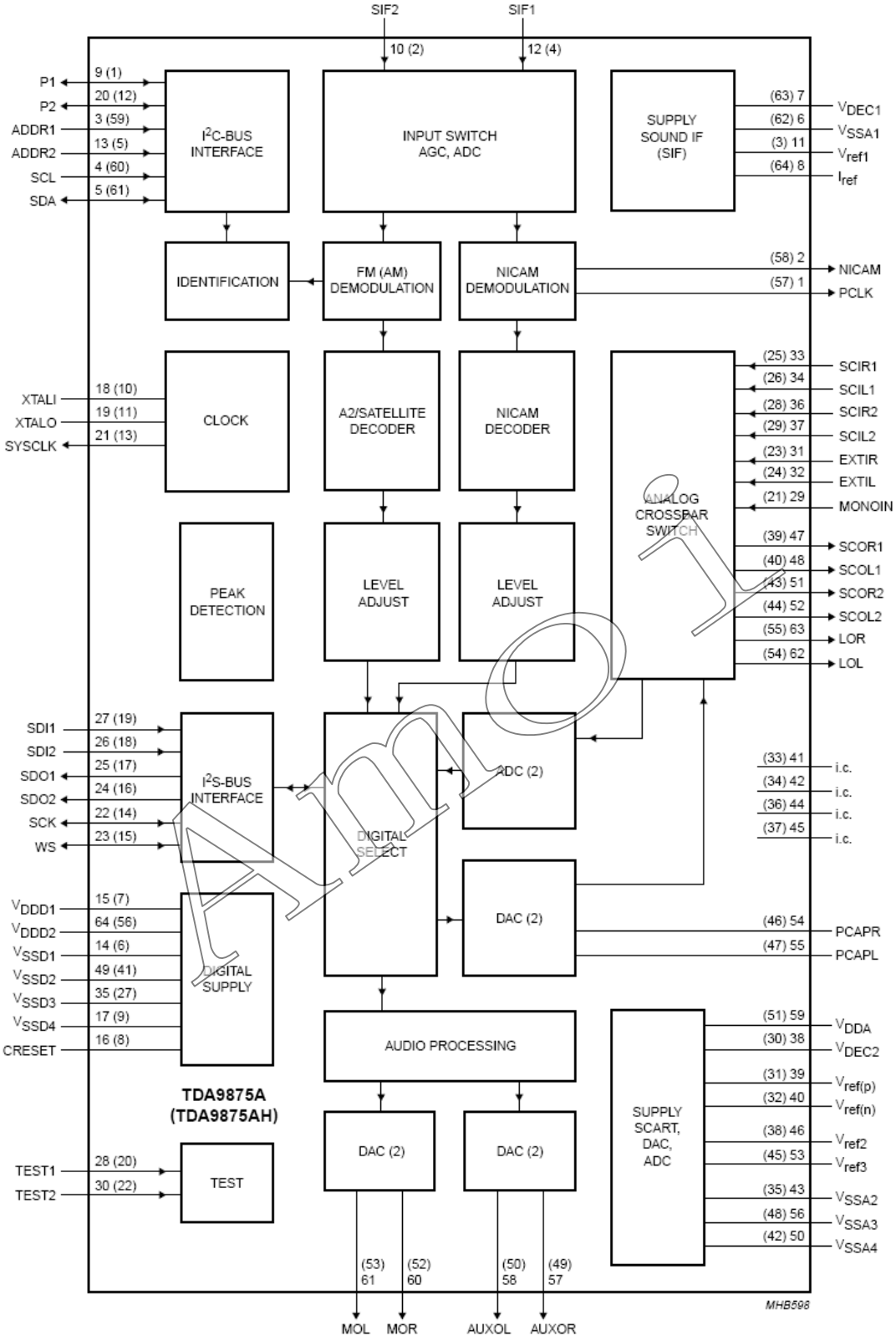




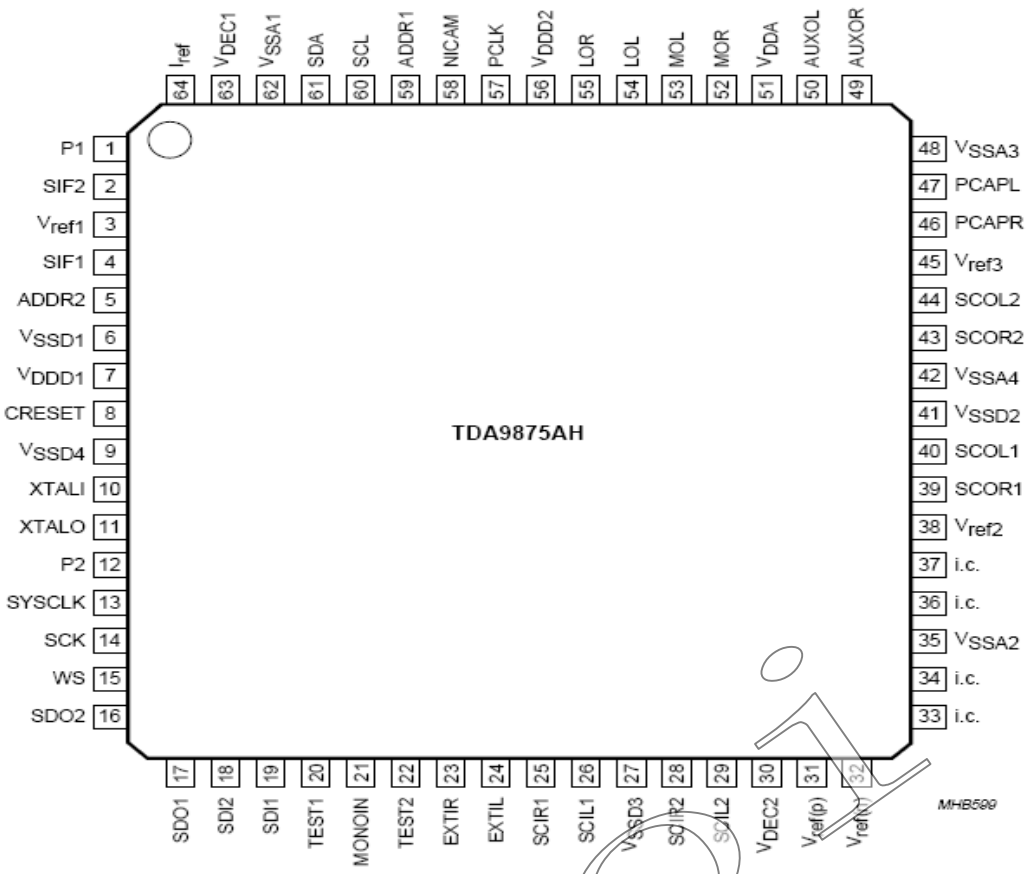
1. MCLR/VPP1	**8. VSS**	**15. RC4/SDI/SDA**	**22. RB1**
2. RA0/AN0	**9. OSC1/CLK1**	**16. RC5/SDO**	**23. RB2**
3. RA1/AN1	**10. OSC2/CLKO**	**17. RC6**	**24. RB3**
4. RA2/AN2	**11. RC0/T1OSO/T1CK1**	**18. RC7**	**25. RB4**
5. RA3/AN3/VREF	**12. RC1/T1OS1**	**19. VSS**	**26. RB5**
6. RA4/T0CK1	**13. RC2/CCP1**	**20. VDD**	**27. RB6/PGC**
7. RA5/SS/AN4	**14. RC3/SCK/SCL**	**21. RB0/INT**	**28. RB7/PGD**

Anoi

IC TDA9875



ARCHIVE



1. P1	**17. SDO1**	**33. i.c.**	**49. AUXOR**
2. SIF2	**18. SD12**	**34. i.c.**	**50. AUXOL**
3. Vref1	**19. SD11**	**35. V_{SSA2}**	**51. V_{DDA}**
4. SIF1	**20. TEST1**	**36. i.c.**	**52. MOR**
5. ADDR2	**21. MONOIN**	**37. i.c.**	**53. MOL**
6. V_{SSD1}	**22. TEST2**	**38. Vref2**	**54. LOL**
7. V_{DDD1}	**23. EXTIR**	**39. SCOR1**	**55. LOR**
8. CRESET	**24. EXTIL**	**40. SCOL1**	**56. V_{DD2}**
9. V_{SSD4}	**25. SCIR1**	**41. V_{SSD2}**	**57. PCLK**
10. XTAL1	**26. SCIL1**	**42. V_{SSA4}**	**58. NICAM**
11. XTAL0	**27. V_{SSD3}**	**43. SCOR2**	**59. ADDR1**
12. P2	**28. SCIR2**	**44. SCOL2**	**60. SCL**
13. SYSCLK	**29. SCIL2**	**45. Vref3**	**61. SDA**
14. SCK	**30. V_{DEC2}**	**46. PCAPR**	**62. V_{SSA1}**
15. WS	**31. Vref(p)**	**47. PCAPL**	**63. V_{DEC1}**
16. SDO2	**32. Vref(n)**	**48. V_{SSA3}**	**64. Iref**

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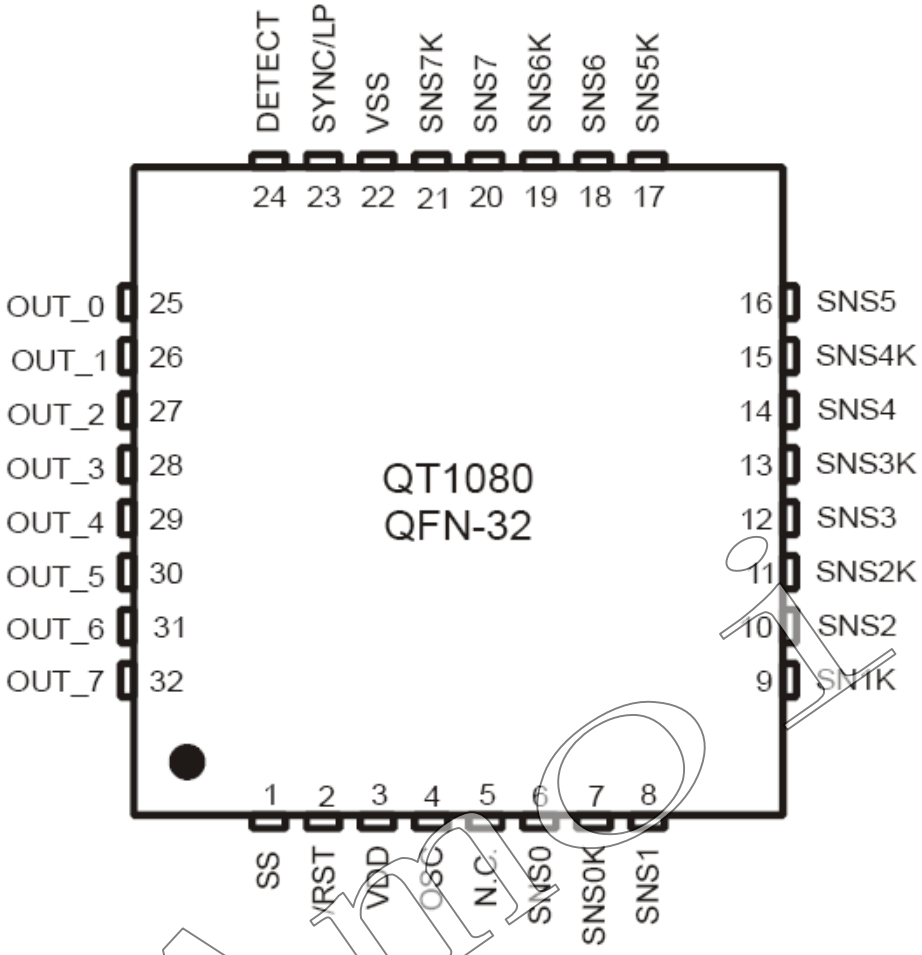
QT1080-1



1. SS	**9. SN1K**	**17. SNS5K**	**25. OUT_0**
2. /RST	**10. SNS2**	**18. SNS6**	**26. OUT_1**
3. VDD	**11. SNS2K**	**19. SNS6K**	**27. OUT_2**
4. OSC	**12. SNS3**	**20. SNS7**	**28. OUT_3**
5. N.C.	**13. SNS3K**	**21. SNS7K**	**29. OUT_4**
6. SNS0	**14. SNS4**	**22. VSS**	**30. OUT_5**
7. SNS0K	**15. SNS4K**	**23. SYNC/LP**	**31. OUT_6**
8. SNS1	**16. SNS5**	**24. DETECT**	**32. OUT_7**

Atmel

ML4800

Power Factor Correction and PWM Controller Combo

Features

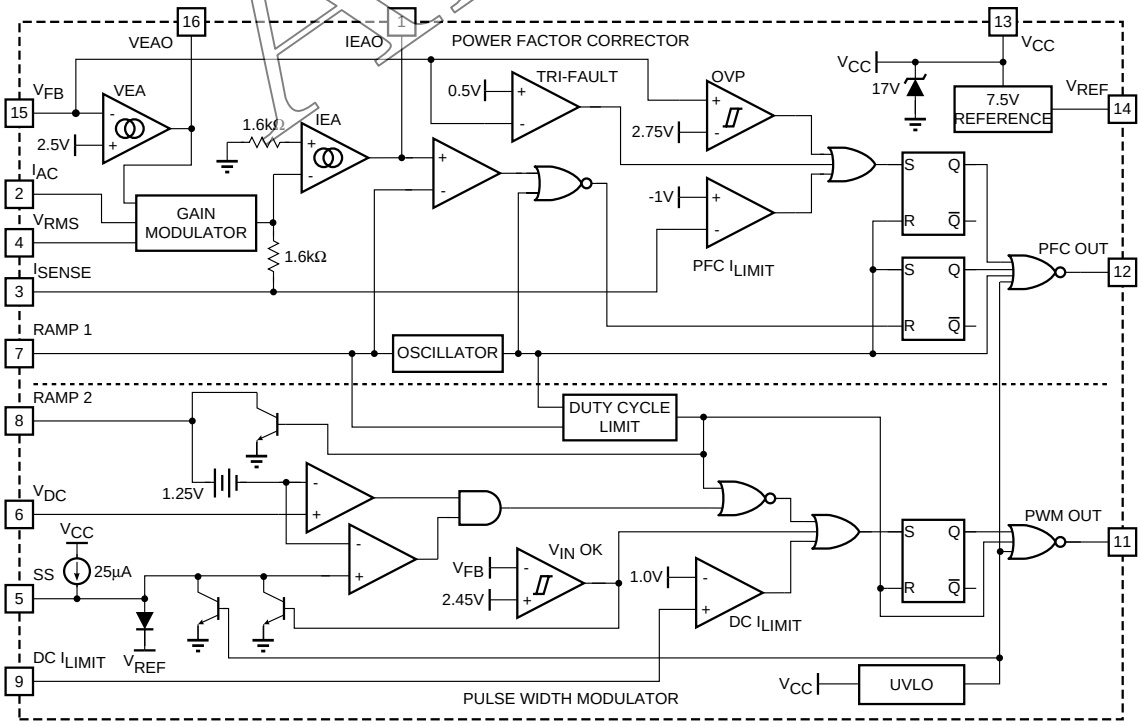
- Internally synchronized leading-edge PFC and trailing-edge PWM in one IC
- TriFault Detect™ for UL1950 compliance and enhanced safety
- Slew rate enhanced transconductance error amplifier for ultra-fast PFC response
- Low power: 200µA startup current, 5.5mA operating current
- Low total harmonic distortion, high PF
- Reduced ripple current in storage capacitor between PFC and PWM sections
- Average current, continuous boost leading edge PFC
- PWM configurable for current-mode or voltage mode operation
- Current fed gain modulator for improved noise immunity
- Overvoltage and brown-out protection, UVLO, and soft start

General Description

The ML4800 is a controller for power factor corrected, switched mode power supplies. Power Factor Correction (PFC) allows the use of smaller, lower cost bulk capacitors, reduces power line loading and stress on the switching FETs, and results in a power supply that fully complies with IEC1000-3-2 specification. Intended as a BiCMOS version of the industry-standard ML4824, the ML4800 includes circuits for the implementation of leading edge, average current, "boost" type power factor correction and a trailing edge, pulse width modulator (PWM). It also includes a TriFault Detect™ function to help ensure that no unsafe conditions will result from single component failure in the PFC. Gate-drivers with 1A capabilities minimize the need for external driver circuits. Low power requirements improve efficiency and reduce component costs.

An over-voltage comparator shuts down the PFC section in the event of a sudden decrease in load. The PFC section also includes peak current limiting and input voltage brownout protection. The PWM section can be operated in current or voltage mode, at up to 250kHz, and includes an accurate 50% duty cycle limit to prevent transformer saturation.

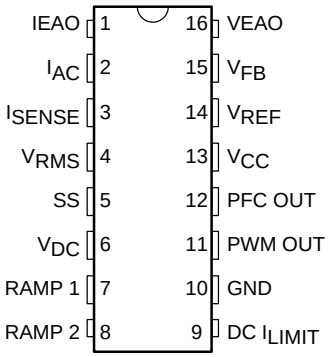
Block Diagram



Amol

Pin Configuration

ML4800
16-Pin PDIP (P16)
16-Pin Narrow SOIC (S16N)



TOP VIEW

Pin Description

Pin	Name	Function
1	IEAO	Slew rate enhanced PFC transconductance error amplifier output
2	I_{AC}	PFC AC line reference input to Gain Modulator
3	I_{SENSE}	Current sense input to the PFC Gain Modulator
4	V_{RMS}	PFC Gain Modulator RMS line voltage compensation input
5	SS	Connection point for the PWM soft start capacitor
6	V_{DC}	PWM voltage feedback input
7	RAMP 1	Oscillator timing node; timing set by R_TC_T
8	RAMP 2	When in current mode, this pin functions as the current sense input; when in voltage mode, it is the PWM modulation ramp input.
9	DC I_{LIMIT}	PWM cycle-by-cycle current limit comparator input
10	GND	Ground
11	PWM OUT	PWM driver output
12	PFC OUT	PFC driver output
13	V_{CC}	Positive supply
14	V_{REF}	Buffered output for the internal 7.5V reference
15	V_{FB}	PFC transconductance voltage error amplifier input
16	VEAO	PFC transconductance voltage error amplifier output

Archive

FS7M0880

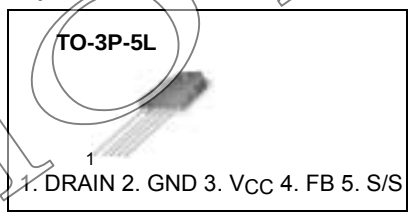
Fairchild Power Switch(FPS)

Features

- Precision Fixed Operating Frequency
- FS7M0880(66kHz)
- Pulse By Pulse Over Current Limiting
- Over Load Protection
- Over Voltage Protection (Min. 25V)
- Internal Thermal Shutdown Function
- Under Voltage Lockout
- Internal High Voltage Sense FET
- Latch Up Mode
- Soft Start

Description

The Fairchild Power Switch(FPS) product family is specially designed for an off line SMPS with minimal external components. The Fairchild Power Switch(FPS) consists of a high voltage power SenseFET and the current mode PWM controller IC. The PWM controller includes an integrated fixed oscillator, the under voltage lock out, the leading edge blanking block, the optimized gate turn-on/turn-off driver, the thermal shut down protection, the over voltage protection, the temperature compensated precision current sources for loop compensation and an fault protection circuit. Compared to just PWM controller combined MosFET or R_{CC} switching converter solution, a Fairchild Power Switch(FPS) can reduce total component price, design size, and weight,also simultaneously increase efficiency, productivity, and system reliability. It has a simple method of application well suited for cost down design in either a flyback converter or a forward converter.



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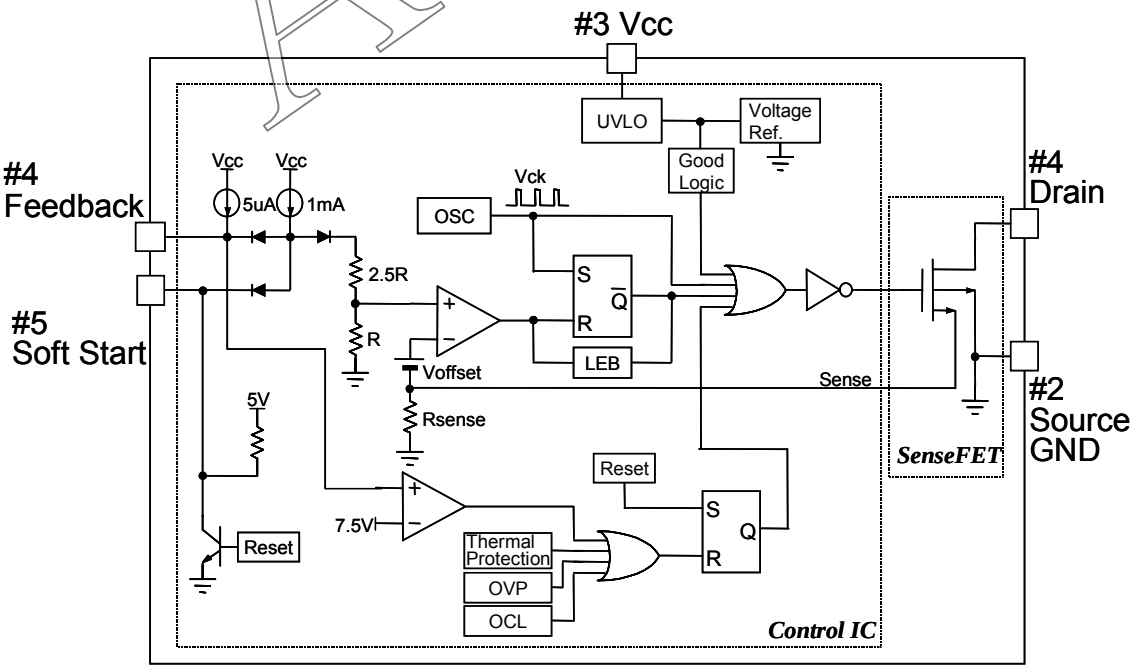
Internal Block Diagram



Rev.1.0.1

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FSD20x-SERIES

FSD200, FSD201

Fairchild Power Switch(FPS)

Preliminary Specification

Features

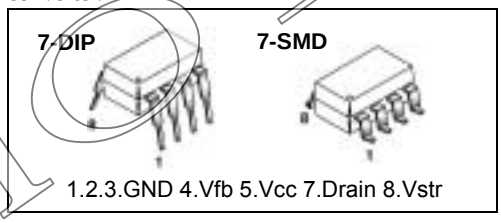
- Single Chip 700V SenseFET Power Switch
- Precision Fixed Operating Frequency (134kHz)
- Internal Start-up Switch
- UVLO with Hysteresis (6V/7V)
- Over Load Protection
- Over Current Protection
- Internal Thermal Shutdown Function (Hysteresis)
- Secondary Side Regulation
- Auto-Restart Mode
- Frequency Modulation for EMI
- No Bias Winding

Applications

- Charger & Adaptor for Mobile Phone, PDA & MP3
- Auxiliary Power for PC, C-TV & Monitor

Description

The FSD20x is specially designed for an off-line SMPS with minimal external components. The FSD20x is a monolithic high voltage power switching regulator that combine the SenseFET(LDMOS) with voltage mode PWM control block. Included PWM controller features integrated fixed oscillator with frequency scaling, under voltage lock out, leading edge blanking, optimized gate turn-on/turn-off driver, thermal shut down protection and temperature compensated precision current sources for loop compensation and fault protection circuitry. Compared to discrete MOSFET and controller or RCC switching converter solution, a FSD20x can reduce total component count, design size, weight and at the same time increase efficiency, productivity, and system reliability. It has a basic platform well suited for cost effective design in a flyback converter.



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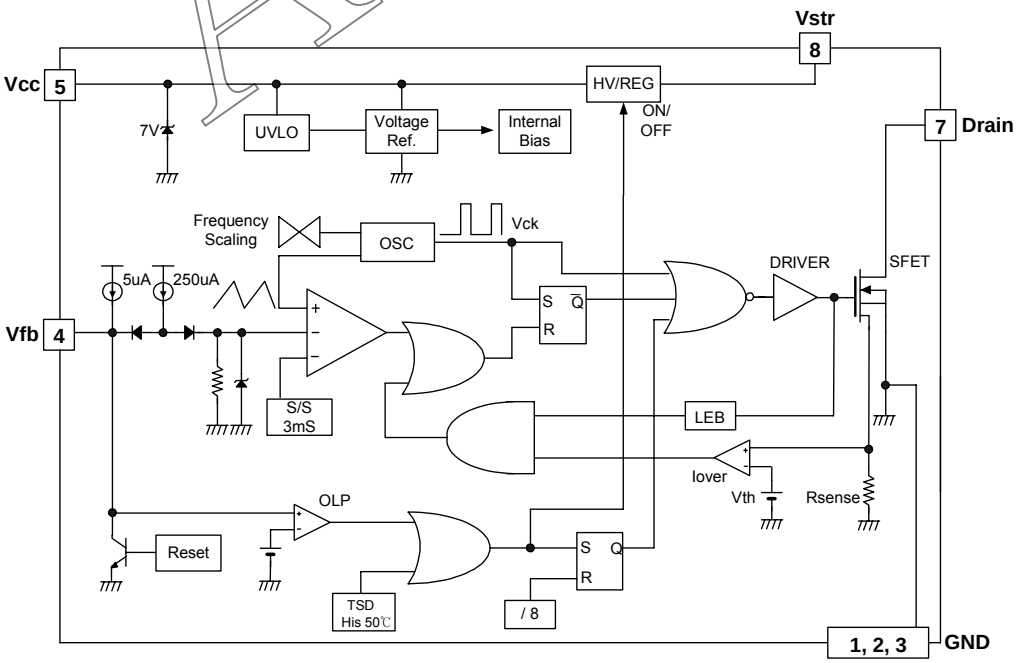
Internal Block Diagram



Rev.0.9.1

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Absolute Maximum Ratings

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum Drain Voltage	$V_{D,MAX}$	700	V
Maximum Vstr Pin Voltage	$V_{str,max}$	700	V
Continuous Drain Current (T_C=25°C)	I_D, **FSD200**	0.5	A_{DC}
Continuous Drain Current (T_C=25°C)	I_D, **FSD201**	1.0	A_{DC}
Maximum Supply Voltage	$V_{CC,MAX}$	20	V
Input Voltage Range	V_{FB}	−0.3 to V_{start}	V
Operating Ambient Temperature	T_A	−25 to +85	°C
Storage Temperature Range	T_{STG}	−55 to +150	°C

PIN Definitions

Pin Number	Pin Name	Pin Function Description
1, 2, 3	GND	These pins are the control ground and the SenseFET Source.
4	Vfb	This pin is the inverting input of the PWM comparator, and it operates normally between 0.5V and 2.5V. It has a 0.25mA current source connected internally and a capacitor and opto coupler connected externally. A feedback voltage of 3V to 4V triggers overload protection (OLP). There is a time delay due to the 5uA current source, which prevents false triggering under transient conditions but still allows the protection mechanism to operate under true overload conditions.
5	Vcc	This is the positive supply voltage input. During operating, power is supplied from pin1, Vstr and the voltage is regulated by internal HV/reg (7V shunt regulator). The Auxiliary transformer winding is not needed.
7	Drain	This pin is designed to directly drive the converter transformer and is capable of switching a maximum of 700V.
8	Vstr	This pin connects directly to the rectified AC line voltage source. At start up the internal switch supplies internal bias and charges an external capacitor that connects from the Vcc pin to ground. once V_{CC} reaches 7V, then FPS operates, and Trferal HV/REG regulates 7V of V_{CC}.

Preliminary Specification

ARCOL

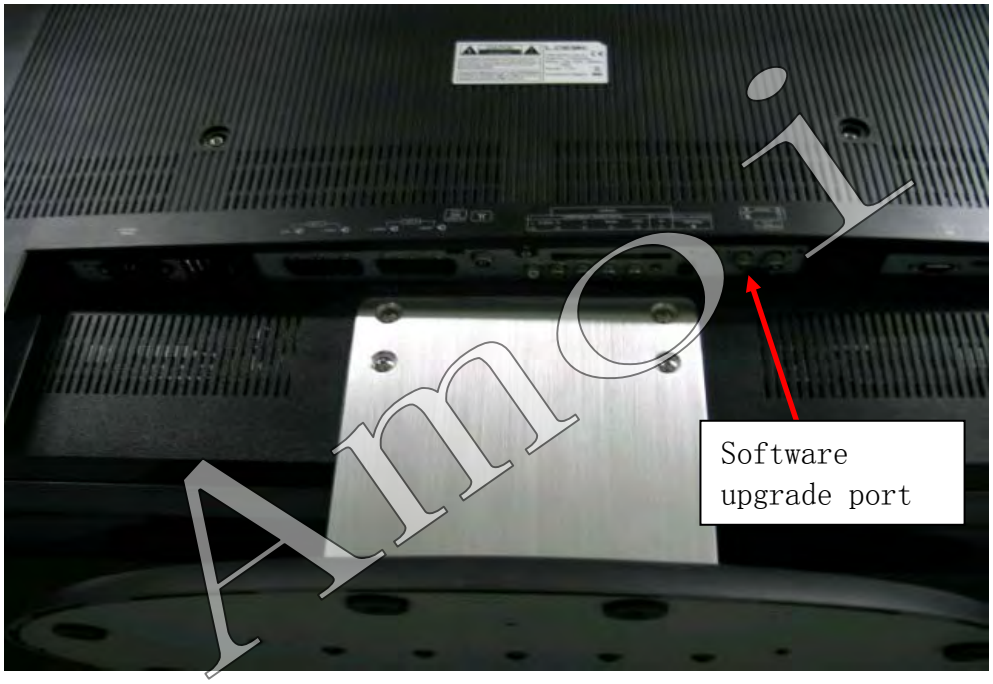
8、Software version view and Upgrade instruction

Software version view

Power on the TV normally, hold the “SOURCE” key for about 10s, then “Software version, Publish Date and MCU version” info. will display on the screen.

Software upgrade method

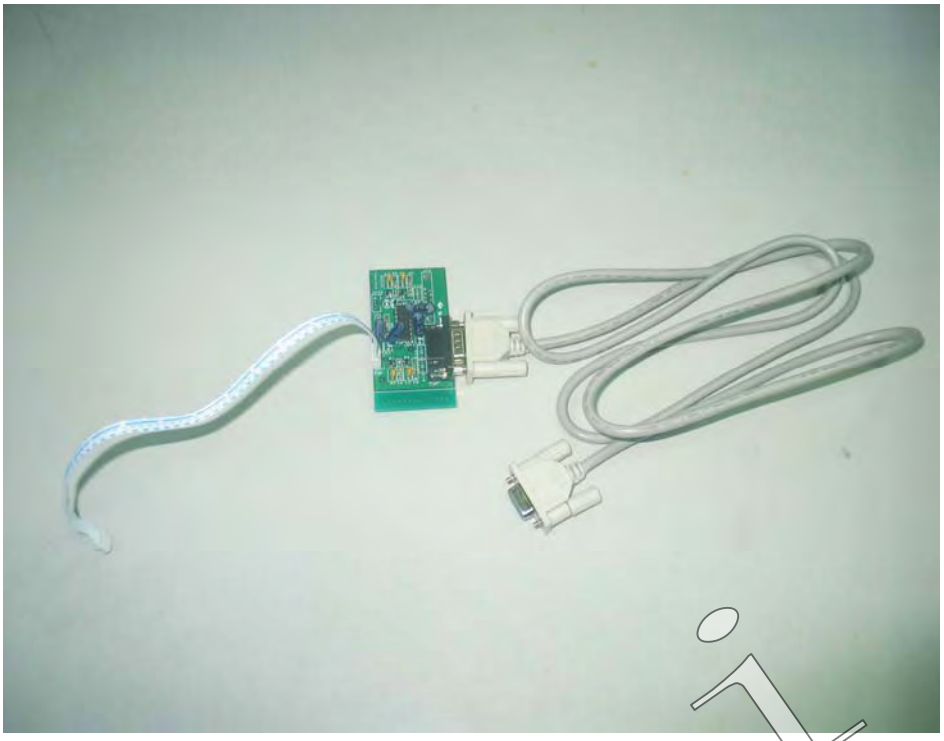
Ⅰ、Power off the power, you can find the software upgrade port beside the VGA port in the TV back cover (see picture 1).



Picture 1: Software upgrade port

Ⅱ、Connect the computer COM port to the TV upgrade port with upgrade cable, as the pictures below. If the computer has several COM ports, usually they will be marked as 1, 2, 3, etc, choose one (suggest to use COM1); if there is only one COM port, then it is COM1.

*Note: Please upgrade the software by the PC with COM output, if your PC is Notebook PC, please upgrade before changing PCMCIA into COM port.



Picture 2. Upgrade cable

Picture 3. COM port of the PC

Picture4. Connect the upgrade cable with COM port of the PC

III、Switch on the power and power on the TV after connecting with upgrade cable, you can begin to upgrade when the TV in the normal working status.

Power-on method: Switch on the power, power on TV (the power indicator is red when the TV is in standby mode); press “SOURCE” or any keys in the remote control to enter the working mode (the power indicator is green)

Double click the upgrade tool icon

to open, the interface like picture 5.

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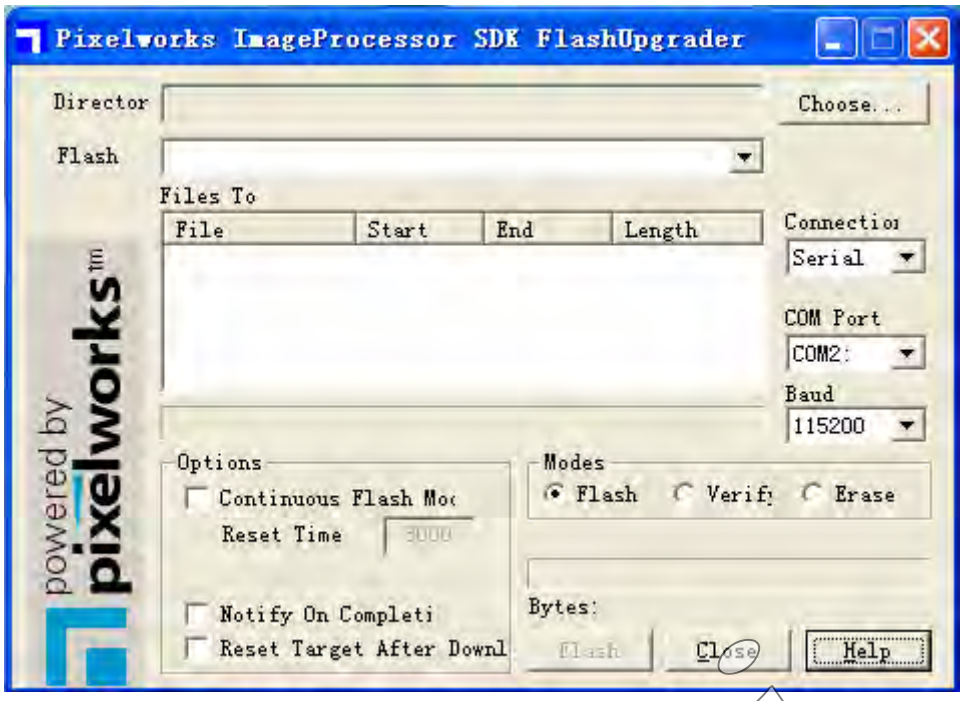
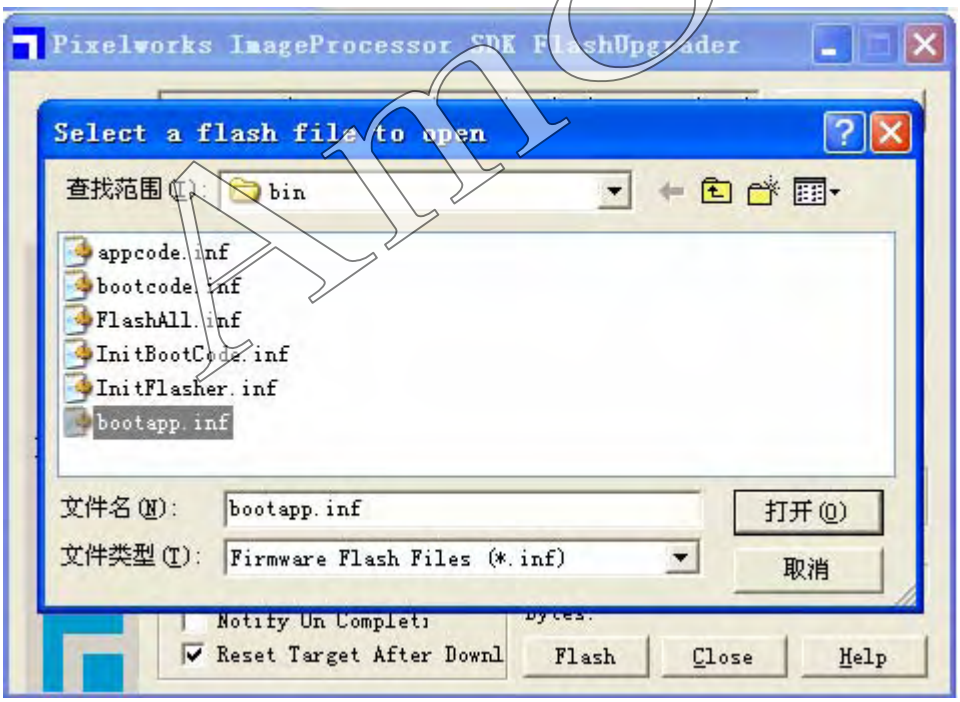


Picture5. The interface of upgrade tool

1. Click “Choose” item in the upgrade tool and select the content which includes upgrade software (in picture 7 and 8, assumed the upgrade file name is “appcode”), then select the upgrade file.



Picture 6. Select the upgrade software (a)

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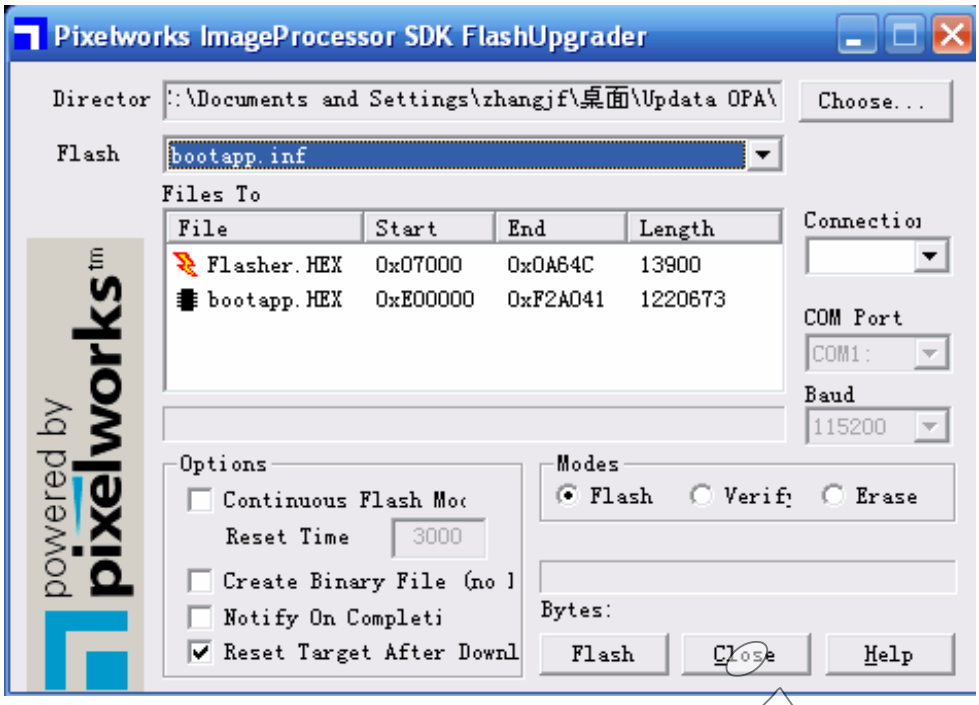
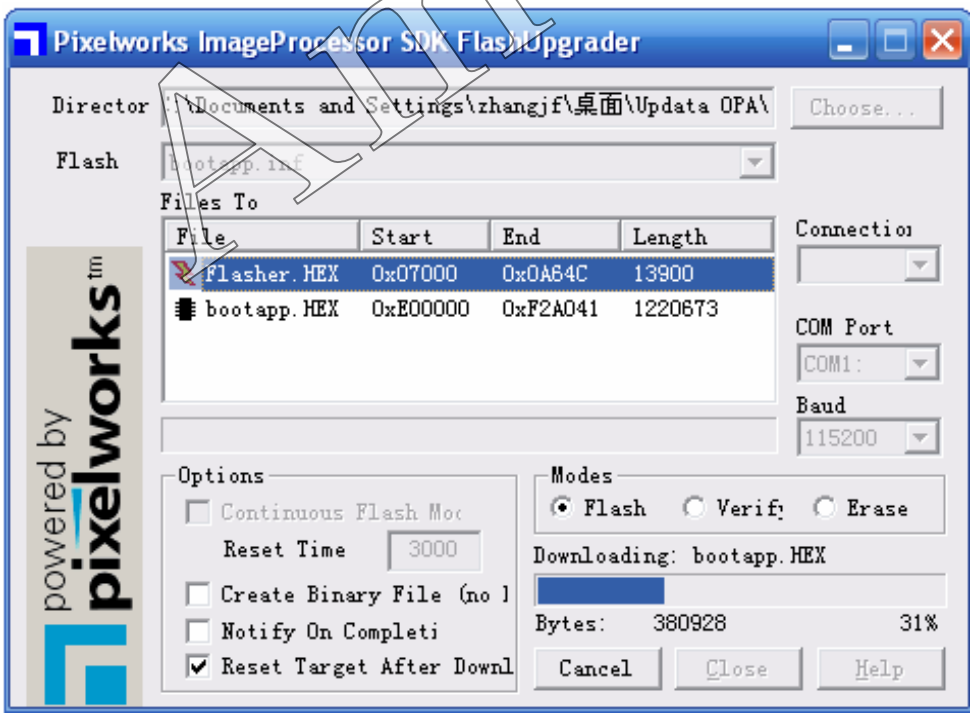


Picture 7. Select upgrade software (b)

2. Click "Flash" item in upgrade tool to begin upgrade, Do not cut off the power or using "Cancel" during the upgrading.

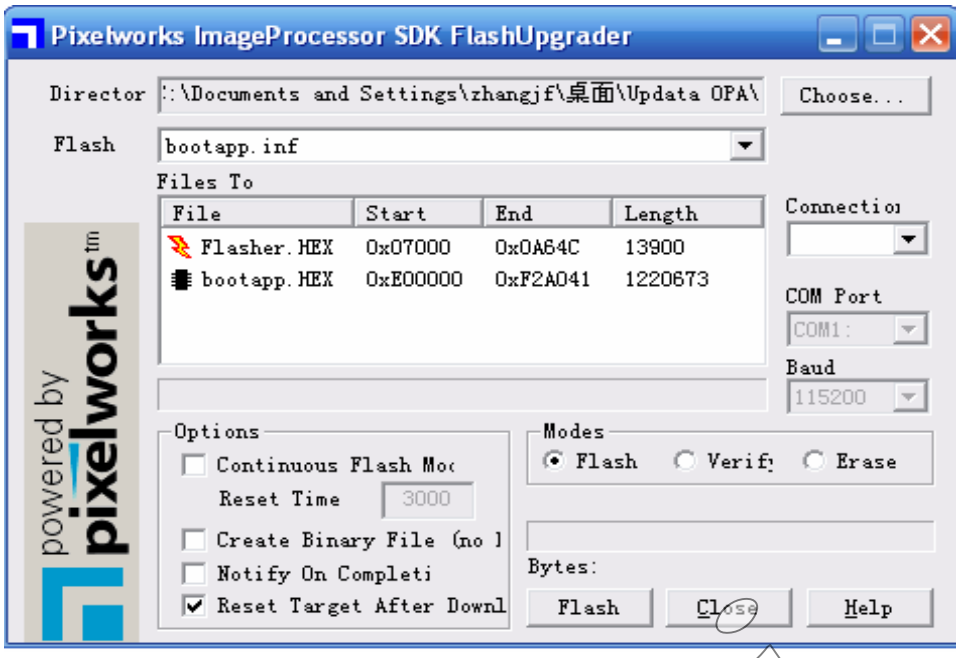
*Note: Remember to click "Flash" item firstly, then power on the power (this solution limited), if it can upgrade, the following picture will display, the blue bar means the upgrading speed.



Picture 8. Software upgrading

3. When the progressing bar of upgrade tool shows 100%, it means that the

software upgrade is finished.



Picture 9. Software upgrade completed

Ⅳ、Finally, close the upgrade application program, cut off the power and disconnect the upgrade cable. The TV software upgrade is finishen.

Ⅴ、If the upgrade is failed:

1、Check whether the upgrade cable is connected well;

2、Check whether the selections of COM port are all right;

3、Check whether the TV is power on after connected with upgrade cable, the power indicator is green;

4、If the power is cut off during upgrading which results in upgrade failure, please upgrade again as the steps above. (Plug the TV and power on the power and TV by pressing any keys in the remote control, then begin to upgrade when the power indicator is green.

Ⅵ 、The judgment of the upgrade successful

Note: The power-on LOGO will display in 10s (the power indicator changes into green) when the upgrade is successful.

Hold “SOURCE” key for about 10s, the version info. Will display on the screen, including the Current version no., Date and MCU version no., please check whether the displaying version no. is the same as the published version no.

Ⅶ、Note:

Please close the useless program during upgrading, otherwise it may cause the pause of upgrade (the progress bar would stop suddenly). You can click “Cancel”, and then select “Yes” to cancel the upgrade in the pop window. At last, upgrade it according to the former method.

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Picutre10. Cancel the upgrade window

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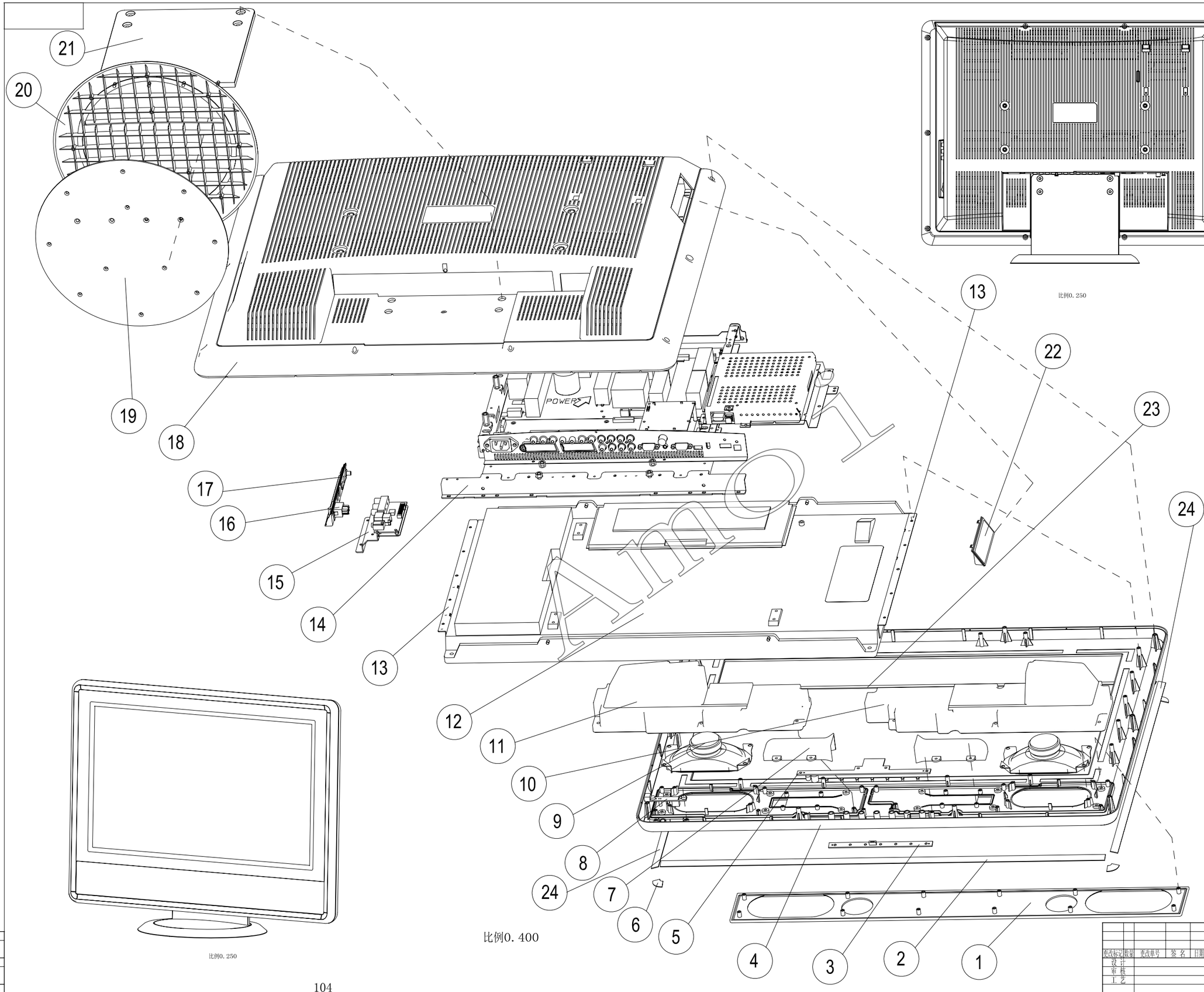
一般公差(±)				
尺寸	A级	B级	C级	D级
<4	0.05	0.1	0.2	0.3
4~16	0.1	0.2	0.3	0.4
16~63	0.2	0.3	0.4	0.7
63~250	0.3	0.4	0.6	1.2
>250	0.4	0.5	0.8	2.0

比例0.250



比例0.250

比例0.400

24	TV3_26_EDGE_DOCE_SIDE	左右装饰条	part	2
23	TV3_26_EDGE_DOCE_UP	上装饰条	part	1
22	TV3_Decorate_COVER_A	装饰片	part	1
21	TV2_STAND_CIRCULAR_N_BRACKET	桌面支架立柱	part	1
20	TV2_STAND_CIRCULAR_CASING_3	底座上盖	part	1
19	TV2_STAND_CIRCULAR_CHASSIS_3	桌面支架底板	part	1
18	TV3_26_BACK_COVER	后盖	part	1
17	TV3_26_IO_S_COVER	小IO盖板	part	1
16	ROCKER_SWITCH	开关键	part	1
15	TV3_26-IO-S-SHEETMETAL	小IO钣金组件	asm	1
14	tv3-26-au-sheetmetal	钣金组件	asm	1
13	26_BODY_BRACKET_SIDE	侧压条	part	2
12	lcd260w02-b-spec_040908-au	AU屏	part	1
11	tv3_26_soundbox_back_cover_l	音箱后盖左	part	1
10	tv3_26_soundbox_back_cover_r	音箱后盖右	part	1
9	speaker-5812	单元	part	2
8	tv2_26_pcb_rc	遥控接收板	part	1
7	tv3_26_daoxiangguan	导向管	part	2
6	tv3_26_edge-deco	装饰角	part	4
5	pcb_led	按键灯	part	1
4	tv3_26_front_cover	前座	part	1
3	pcb_key	按键板	part	1
2	tv3_26_edge_doce_down	下装饰条	part	1
1	tv3_26_soundbox_front_cover	音箱网罩	part	1
index	3D-name	CN-name	type	qty

镀涂

旧版图总号	
底图总号	
日期	签名

更改标记	数量	更改单号	签名	日期
设计				
审核				
工艺				
标准化				
批准				

TVL1517SKDUBK01

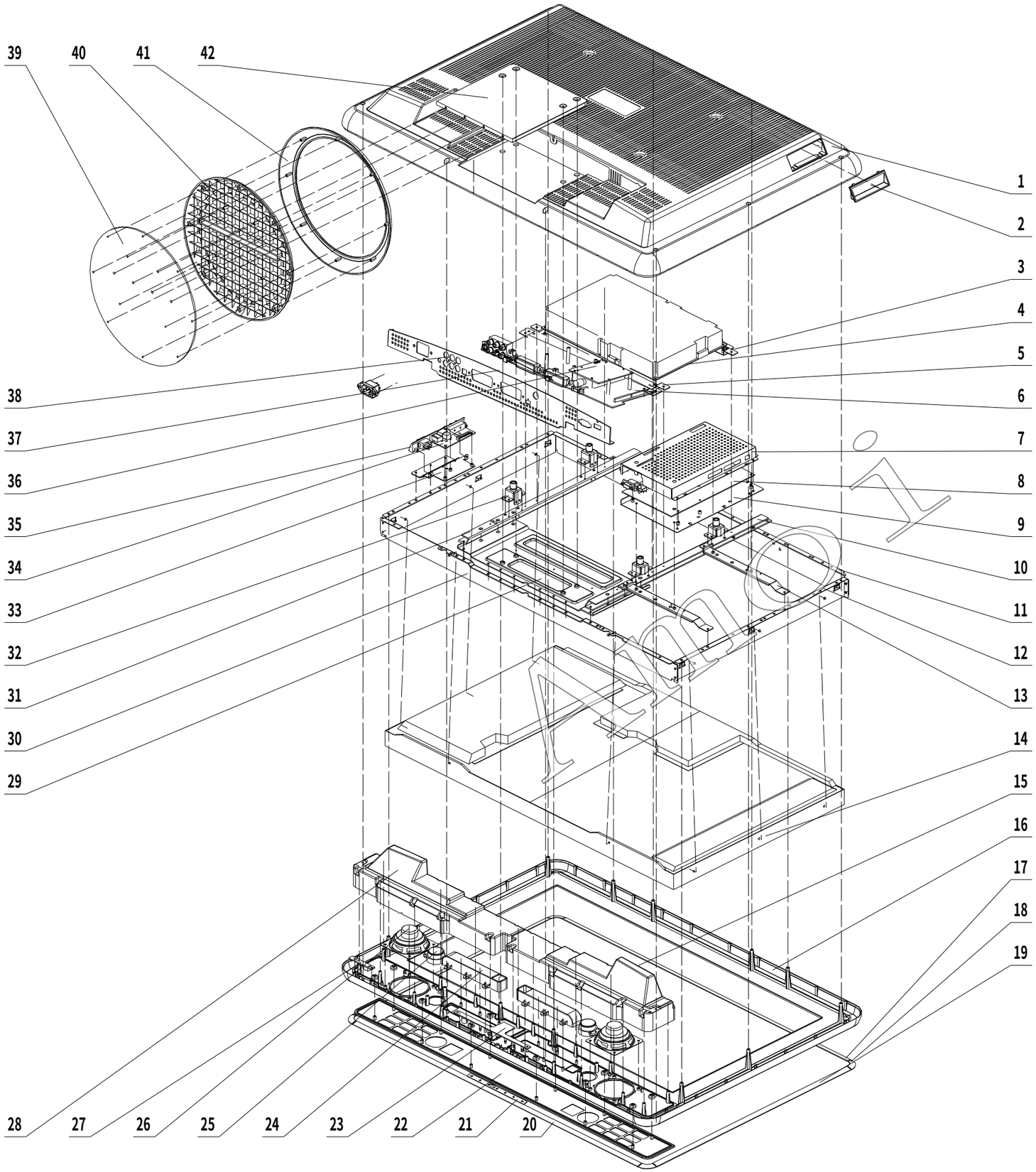
TV3-27
爆炸图

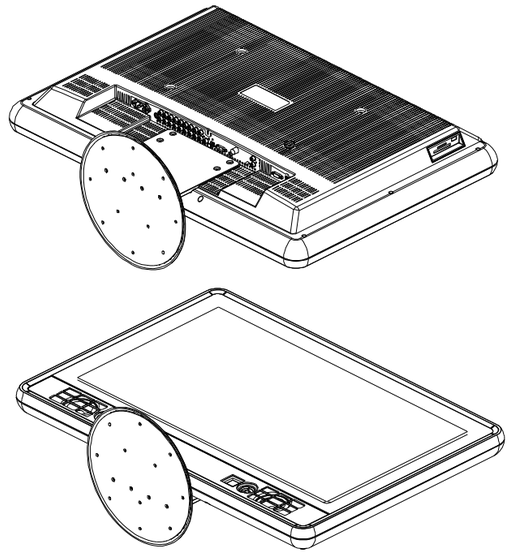
版本号	V1.0		
等级	标记	重量	比例
			1:2.5
第 1 页	共 1 页		

AMOI夏新

AMOI

Size:A1 Model Name:TV3_26_ASM Drawing Name:DRW0002 Date:26-JUN-06





NO.	PART CODE	PART NAME	ACCOUNT	REMARK
42	6400 0126 0000	STAND SUPPORT	1	
41	6340 0001 0003	STAND OUTER COVER	1	
40	6340 0000 0003	STAND INNER COVER	1	
39	6403 0064 0000	STAND BOTTOM PLATE	1	
38	1501 0000 0000	POWER PLUG	1	
37	6403 0011 5000	IO METAL PLATE	1	
36	FKV7.829.988HD	TUNER PCB	1	PCB
35	6343 0039 0000	LITTLE IO PCB SIDE COVER	1	
34	FKV7.829.310HA	LITTLE IO BOARD	1	PCB
33	6400 0037 0000	LITTLE IO PCB BRACKET	1	
32	6400 0012 0000	MOUNTING BRACE	4	
31	6402 0000 0000	LEFT MIDDLE STEEL GIRDER	1	
30	6403 0064 0000	BOTTOM STEEL PLATE	1	
29	6400 0003 0000	STAND JOIN PLATE	1	
28	6331 0015 0000	LEFT SOUND BOX BACK COVER	1	
27	FKV7.827.775HC	RC PCB	1	PCB
26	SPKS3#	SACKBUT	2	
25	2503 0100 0001	ALTHORN	2	
24	6343 0061 0000	SOUND BOX AIRPROOF COVER	2	
23	FKV7.829.631SH	LED PCB	1	PCB
22	6313 0000 0000	WEB SUPPORT	1	
21	FKV7.829.632H	KEY PCB	1	PCB
20	6201 0032 2001	BOTTOM DECK SHEET	1	
19	6201 0032 3001	SIDE DECK SHEET	2	
18	6201 0006 0001	CORNER DECK SHEET	4	
17	6201 0032 1001	TOP DECK SHEET	1	
16	6311 0014 0008	FRONT FRAME	1	
15	6331 0016 0000	RIHGT SOUND BOX BACK COVER	1	
14	2603 0200 0027	LCD SCREEN	1	
13	6403 0033 0000	SCALE PCB BRACKET	2	
12	6403 0034 0000	LEFT STEEL PLATE	2	
11	6403 0028 0000	TOP STEEL PLATE	1	
10	6402 0001 0000	RIGHT MIDDLE STEEL GIRDER	1	
9	6403 0006 3000	SCALE BRACKET METAL PLATE	1	
8	FKV7.829.383HI	SCALE PCB	1	PCB
7	6610 0000 8500	SCALE PCB SHIELD COVER	1	
6	FKV7.829.736H	I/O PCB	1	PCB
5	6403 0005 1000	POWER PCB BOTTOM BRACKET	1	
4	FKV7.827.927HG	POWER PCB	1	PCB
3	6403 0004 0000	POWER PCB TOP BRACKET	1	
2	6201 0047 1000	DECK BOARD	1	
1	6331 0012 0001	BACK COVER	1	

DESIGNED BY	
CHECKED BY	TECHNICS
STANDARDIZATION	
APPROVAL	

EXPLODED VIEW

TVL1518DUBK02
LCXW32HD1

VERSION | A

WEIGHT	SCALE
	1:4

PAGE 1

AMOI

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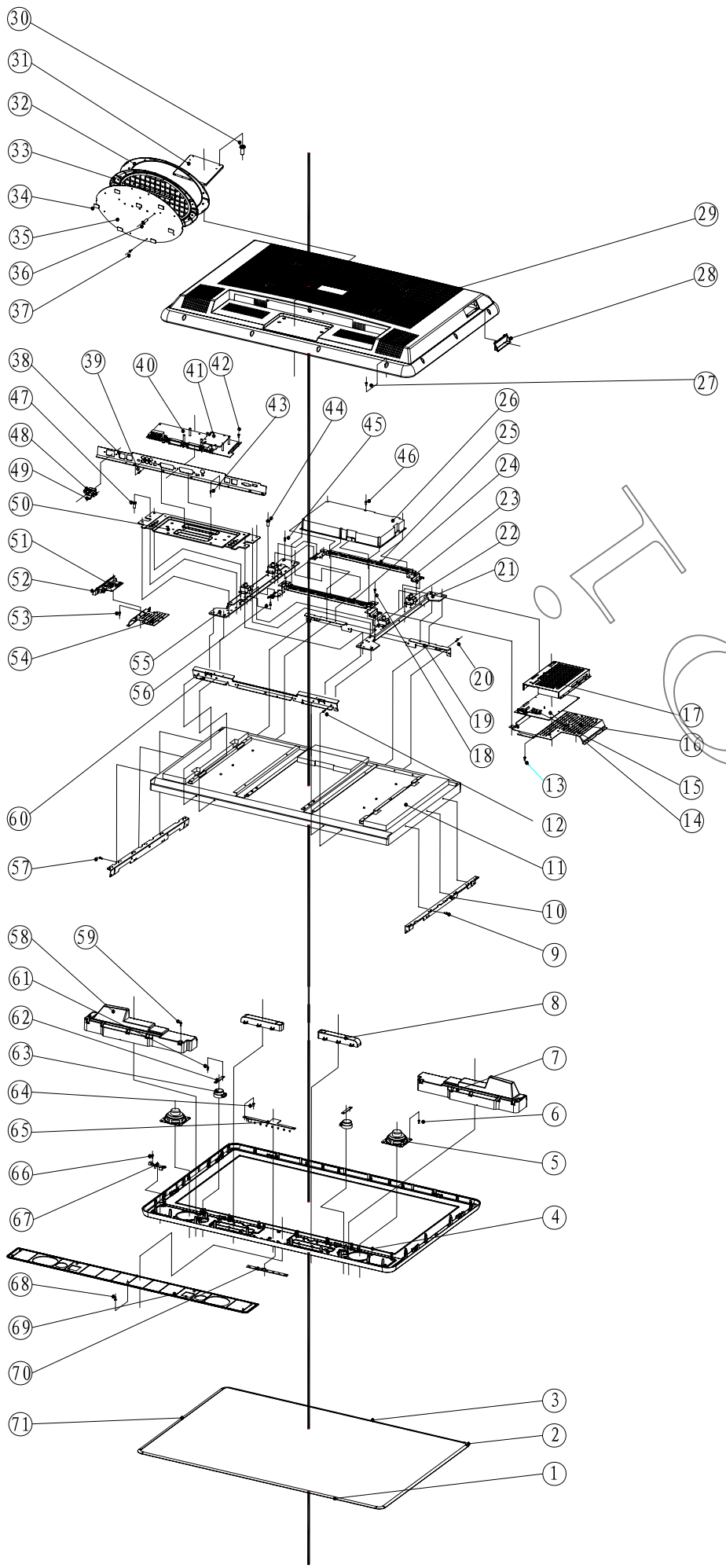
FKV2.025.277



一般公差（±）				
等级	A级	B级	C级	D级
<4	0.05	0.1	0.2	0.3
4~16	0.1	0.2	0.3	0.4
16~63	0.2	0.3	0.4	0.7
63~250	0.3	0.4	0.6	1.2
>250	0.4	0.5	0.8	2.0

NO.	PART NAME	CODE	QUA.	NO.	PART NAME	CODE	QUA.
34	Rubber Cushion	6711 0003 1400	8	68	Screw	6900 0000 0014	12
33	Foot Plastic Cover (Inner)	6343 0059 0002	1	67	Remote Control PCB Unit	FKV7.827.775HC	1
32	Foot Plastic Cover (Outer)	6343 0060 0000	1	66	Screw	6900 0000 0012	2
31	Foot Unit Supporter	6400 0007 0000	1	65	Keystroke PCB Unit	FKV7.829.631SH	1
30	Screw	6900 0100 0076	4	64	Screw	6900 0000 0012	2
29	Back Cover	6330 0009 4000	1	63	Alt Speaker	2503 0100 0001	2
28	Decorate Cover	6201 0047 1001	1	62	Alt Speaker Supporter		2
27	Screw	6900 0000 0015	14	61	Screw	6900 0000 0012	4
26	Power Board Unit	FKV7.827.927HF	1	60	Down Steel Bar	6400 0119 2000	1
25	Power Supporter (Up)	6403 0004 0000	1	59	Screw	6900 0000 0012	18
24	Power Supporter (Down)	6403 0005 0000	1	58	Sound Box Cover(R)	6331 0016 0000	1
23	Little Connector	6400 0063 0000	4	57	Screw	6900 0100 0053	3
22	Hanging Bracket	6402 0011 1000	4	56	Screw	6900 0100 0053	8
21	Main Supportable Staff (L)	6402 0007 3001	1	55	Main Supportable Staff (R)	6402 0007 4001	1
20	Screw	6900 0100 0084	4	54	Side IO Unit Bracket	6400 0045 0000	1
19	Top Steel Bar	6400 0119 1000	1	53	Screw	6900 0100 0019	3
18	Screw	6900 0100 0019	6	52	Side IO Unit Cover	6343 0039 0001	1
17	SCALER Shield	6610 0000 8500	1	51	Side IO PCB Unit	FKV7.829.310HC	1
16	Image Enhanced Board	6400 0042 2000	1	50	Main Steel Supporter	6403 0035 1000	1
15	HDMI Board	FKV7.828.105HB	1	49	Screw	6900 0100 0073	2
14	Scaler Board	FKV7.829.383HE	1	48	Power Socket	1400 0100 0000	1
13	Screw	6900 0100 0019	4	47	Screw	6900 0100 0053	6
12	Screw	6900 0100 0084	4	46	Screw	6900 0100 0019	6
11	LCD Panel	2603 0200 0023	1	45	Screw	6900 0100 0053	8
10	Side Steel Bar	6400 0040 1001	2	44	Screw	6900 0100 0053	16
9	Screw	6900 0100 0053	3	43	Screw	6900 0100 0021	4
8	Sound Box Airproof Cover	6343 0061 0000	2	42	Screw	6900 0100 0019	3
7	Sound Box Cover(L)	6331 0015 0000	1	41	TUNER PCB Unit	FKV7.827.988HD	1
6	Screw	6900 0000 0045	8	40	Main IO PCB Unit	FKV7.829.736	1
5	Woof Speaker	2503 0100 0006	2	39	Screw	6900 0000 0014	7
4	Front Cover	6310 0014 3001	1	38	Main IO Unit Baffle	6403 0037 8000	1
3	Decorate Bar(up)	6201 0021 2001	1	37	Screw	6900 0000 0012	11
2	Decorate Bar(corner)	6201 0020 0001	4	36	Screw	6900 0100 0077	5
1	Decorate Bar(down)	6201 0021 1001	1	35	Foot Steel Board	6403 0061 0000	1

NO.	PART NAME	CODE	QUA.
71	Decorate Bar(Side)	6201 0021 3001	2
70	Toutch KEY PCB Unit	FKV7.829.632H	1
69	Sound Cover Unit	6224 0002 0000	1

镀涂

更改标记	数量	更改单号	签 名	日期
设 计				
审 核				
工 艺				
标准化				
批 准				

TVL1519SKDUBK01
EXPLODE DRAWING

Panel(T370XW01V1)

FKV2.025.277

版本号	A		
等 级	标 记	重 量	比 例
			1:20
第 1 张		共 1 张	

AMOI 夏新

旧底图总号	
底图总号	
日期	签名

Confidential

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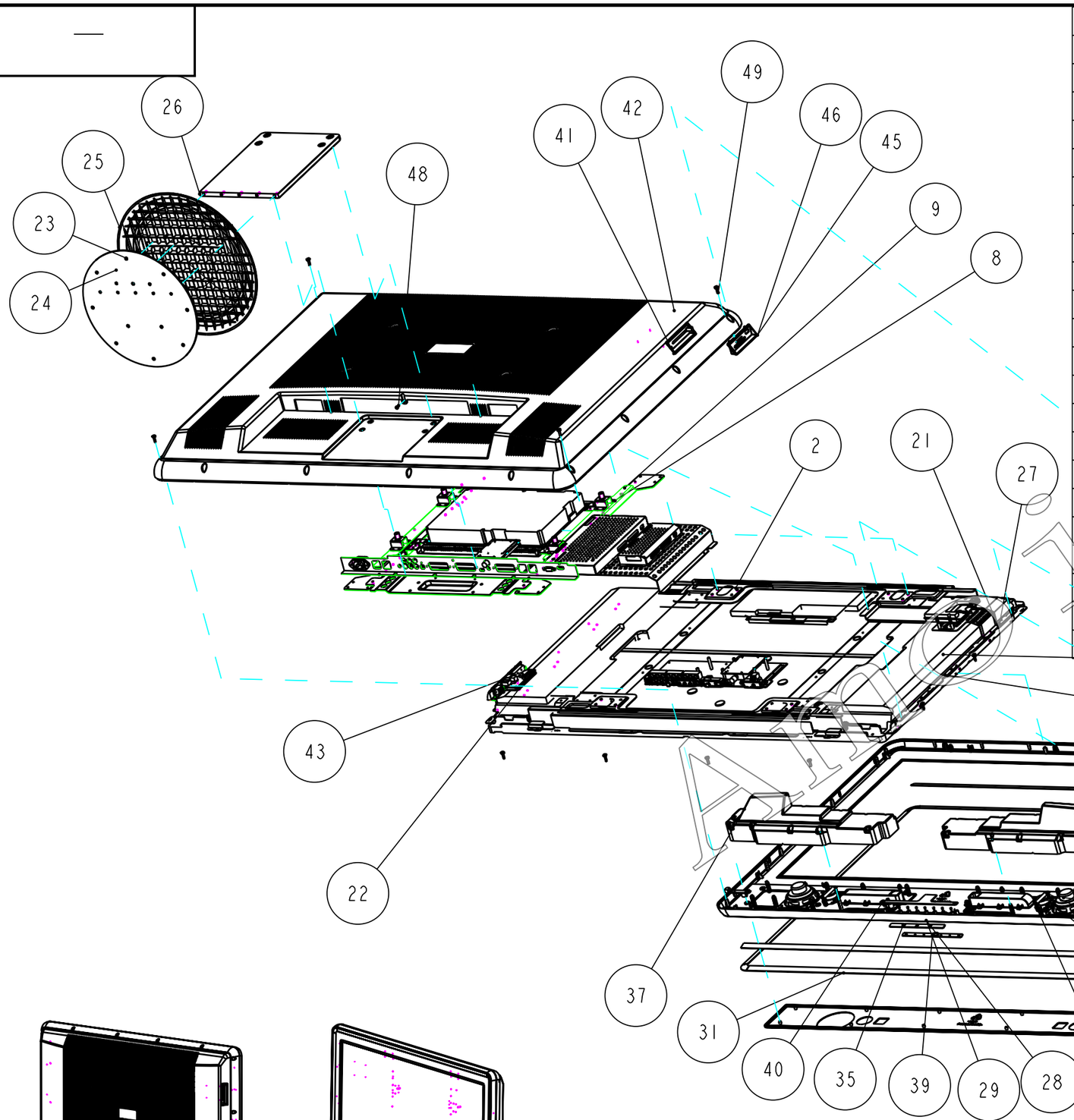
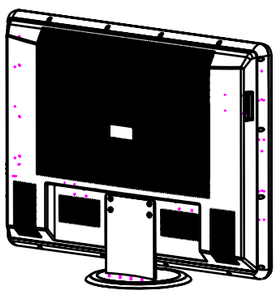


刻度 0.100

29	TV3_42_FRONT_COVER	PART	1
30	42_SPEAKER_PLATE	PART	1
31	TV3_42_SHEET	ASSEMBLY	1
32	SPEAKER_1223	PART	2
33	S3_37_DIYINDANYUAN_1_WDJ	PART	2
34	GAOYIN_BANJIN	PART	2
35	TV3_26_KEY_SENSOR	ASSEMBLY	1
36	TV3_32_SOUND_BACK_L_A	PART	1
37	TV3_32_SOUND_BACK_R_A	PART	1
38	TV3_32_DXG	PART	2
39	PCB_KEY	PART	1
40	PCB_LED	PART	1
41	TV3_42_CABINET_BACK	ASSEMBLY	1
42	TV3_42_BACK_COVER	PART	1
43	TV3_26_SMALL-IO-ASM	ASSEMBLY	1
44	TV3_PCMCIA	ASSEMBLY	1
45	TV3_DUKAQI	ASSEMBLY	1
46	TV3_DUKAQI_COVER_A	PART	1
47	DUKAQI	ASSEMBLY	1
48	SCREW_BIG	PART	3
49	SCREW_BIG_A	PART	16
50	TV2_32_IO-BOARD-ASM	ASSEMBLY	1
51	TV_32_IO-BOARD	PART	1

一般公差(±)				
尺寸	A级	B级	C级	D级
<4	0.05	0.1	0.2	0.3
4~16	0.1	0.2	0.3	0.4
16~63	0.2	0.3	0.4	0.7
63~250	0.3	0.4	0.6	1.2
>250	0.4	0.5	0.8	2.0

INDEX	NAME	TYPE	QTY
1	TV3_42_ASM_NEW	ASSEMBLY	1
2	TV3_42_SHEETMETAL_2	ASSEMBLY	1
3	TV3_42_LG_LCD_2	ASSEMBLY	1
4	LCD42-LG	PART	1
5	TV3_42_LG_T_B_SIDE_METAL_2	PART	2
6	TV3_42_L_R_SIDE_METAL	PART	2
7	TV3_42_YAPIAN_LG	PART	4
8	TV3_42_SUPPORT_2	ASSEMBLY	1
9	MAIN-SUPPORT-SHEETMETAL	PART	2
10	STAND-CONNECTOR-STEELMETAL	PART	1
11	POWER-JOINT-SHEETMETAL	PART	4
12	POWER-CHASSIS-TOP	PART	1
13	POWER-CHASSIS-BOTTOM	PART	1
14	TV3_42_VESA-SHEETMETAL	PART	4
15	TV3_42_TV2_40PCB	ASSEMBLY	1
16	TV3_42_IO_SHEETMETAL_2	PART	1
17	JEPICO_MODEL	PART	1
18	TV3_42_SCALER_JE_METAL	PART	1
19	SHIELD-NEW	PART	1
20	IO-EU-SHEETMEAL	PART	1
21	TV3_42_DUKQ_METAL_2	PART	1
22	TV3_42_S_IO_METAL_2	PART	1
23	TV3_42_FOOT	ASSEMBLY	1
24	TV2_40_STAND_CIRCULAR_CHASSIS	PART	1
25	TV2_40_STAND_CIRCULAR_CASING	PART	1
26	TV3_42_FOOT_SUPPOR_METAL	PART	1
27	TV3_42_WINDOWTV_METAL_2	PART	1
28	TV3_42_CABINET_FRONT	ASSEMBLY	1



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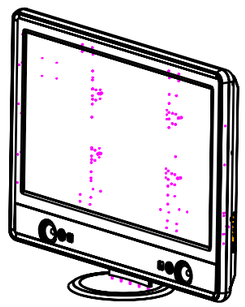

107 刻度 0.050

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TV3_42爆炸图

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底图总号	
日期	签名

10.1. Maintenance spare part list

Mode:LC32T1E				
Total shipment(units)				
	Part name	**Part NO.**	**Discriptions1**	**Discriptions2**
Panel				
1	LCD panel	2603 0200 0027		
Board				
1	Power board	FKV7.827.927HG		
2	Scaler board	FKV7.829.383SHL		
3	Tuner board	FKV7.827.988HD		
4	I/O board	FKV7.829.736SH		
5	Side I/O board	FKV7.829.310HC		
6	Key/IR receiver board	FKV7.828.479H		
7	HDMI board	FKV7.828.105SHB		
Accessories				
1	Remote Control	3600 0200 0014		
2	Power cord	1300 0000 0004		H05VV-F3G0.75MM2 BLACK 1.5M
3	User's manual	6850 0000 5001		
4	Battery	2900 0200 0002		
5	Certificate paper	6851 0000 3200		
Packaging				
1	Cartoon box top	6840 0000 7301	945*383*735	
2	Cartoon box bottom	6840 0000 7401	925*363*260	
3	Cushion Top Left	6810 0001 0900	365*160*120（mm）	
4	Cushion Top Right	6810 0001 1000	365*160*120（mm）	
5	Cushion Bottom Left	6810 0001 0700	350*190*170（mm）	
6	Cushion Bottom Right	6810 0001 0800	350*190*170（mm）	
7	TV bag	6820 0000 8900	1050×900mm	
8	Manual bag	6820 0000 9000		
9	accessory box	6840 0000 5500	255*125*70	
10	Carton buckle	6520 0000 0000		
Stickers				
1	rate lable	6852 0000 1701		
2	Serial number lable	6852 0000 9600		
Plastic				
1	Front cover	6311 0014 0008		
2	Rear cover	6331 0012 0001		
3	Stand inside cover	6340 0000 0003		
4	Stand out cover	6340 0001 0002		
Cables				
1	LVDS cable	1301 0400 0013		scaler board J608—>panel CN11
2	Connect cable	1301 0200 0060	2pin,8.0mm,l=320,	Power switch-->Power board
3	Connect cable	1301 0200 0074	10pin,2.0mm,L=350mm	POWER--PANEL
4	Connect cable	1301 0200 0075	14Pin-->10Pin+4Pin	Power board J9 -->I/O board JV103
5	Connect cable	1301 0200 0076	L=400mm	POWER--PANEL
6	Connect cable	1301 0200 0079	L=200mm,yellow/green	Power plug HF301"E"-->Lock to bracket

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7	Connect cable	1301 0200 0080	L=270, red, ul,	Power plug HF301 "L"-->Power switch, Power plug HF301 "N"-->Power switch
8	Connect cable	1301 0200 0112	13Pin	SCALER--POWER
9	Connect cable	1301 0200 0115	16Pin	side I/O-->I/O board
10	FFC cable	4510 0000 5000		IO JV2-->SCALER board J705
11	FFC cable	1301 0100 0017		I/O board JV3-->SCALER board J707
12	FFC cable	1301 0100 0035	7pin, 1.0mm, L=60mm	control of key board --->KEY board
13	Connect cable	1301 0200 0054	L=120mm, red	bourdon speaker--->alt speaker positive pole
14	Connect cable	1301 0200 0055	L=120mm, white	bourdon speaker--->alt speaker negative pole
15	Connect cable	1301 0200 0101	500mm , 5PIN	IR board--> I/O board
16	Earthing cable	1301 0300 0002		IR、LED board-->Front panel
17	Earthing cable	1301 0300 0005	L=180mm, black	KEY board-->Front panel
18	Connect cable	1301 0200 0052	8pin, 1.25mm, L=855mm	KEY board-->I/O
19	Connect cable	1301 0200 0539	R=1200mm, L=800mm	Loudspeaker-->I/O
Foil				
1	Foil shield for cable	6643 0000 1100	50x120mm	
2	Foil shield for cable	6643 0000 1200	80x160mm	
Binder				
1	Binder	6520 0000 0500		
2	Binder	6520 0000 0600		
Speakers				
	Loudspeaker	2503 0100 0006	78mm 8W 83dB 95Hz	
	Loudspeaker	2503 0100 0001	Dimension:35mm	
Screw				
1	Screw	6900 0100 0019		
2	Screw	6900 0100 0067	L=8 mm diameter: 4 mm	
3	Screw	6900 0100 0070	L=18 mm diameter: 6 mm	
4	Screw	6900 0100 0074	L=6mm diameter: 3 mm	
5	Screw	6900 0100 0094	L=10 mm diameter: 4mm	
6	Screw	6900 0100 0017		
7	Screw	6900 0100 0022		
8	Screw	6900 0100 0059	L=8 mm diameter: 3 mm	
9	Screw	6900 0100 0071	L=6 mm diameter: 3.5 mm	
10	Screw	6900 0100 0073	L=8 mm diameter: 3 mm	
11	Screw!	6900 0000 0011		
12	Screw!	6900 0000 0035		
13	Screw!	6900 0000 0030		
14	Screw!	6900 0000 0012		
15	Screw!	6900 0000 0014		
16	Screw!	6900 0000 0013		
Others				
	Power switch	1501 0000 0000	Dualpole, black	
	Power plug	1400 0100 0000	3pin, 10A, 250VAC	

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10.2.Maintenance spare part list

Mode:LC37T1E				
Total shipment(units)				
	Part name	**Part NO.**	**Discriptions1**	**Discriptions2**
Panel				
1	LCD panel	2603 0200 0023		
Board				
1	Power board	FKV7.827.927HF		
2	Scaler board	FKV7.829.383SHA7		
3	Tuner board	FKV7.827.988HD		
4	I/O board	FKV7.829.736SH		
5	Side I/O board	FKV7.829.310HC		
6	Key/IR receiver board	FKV7.828.479H		
7	HDMI board	FKV7.828.105SHB		
Accessories				
1	Remote Control	3600 0200 0014		
2	Power cord	1300 0000 0004		H05VV-F3G0.75MM2 BLACK 1.5M
3	User's manual	6850 0000 5001		
4	Battery	2900 0200 0002		
5	Certificate paper	6851 0000 3200		
Packaging				
1	Cartoon box top	6840 0000 5904	1084*438*855mm	
2	Cartoon box bottom	6840 0000 8500	1015*400*260mm	
3	Cushion Top Left	6810 0000 7100	415*200*170mm 135g	
4	Cushion Top Right	6810 0000 7200	415*200*170mm 135g	
5	Cushion Bottom Left	6810 0000 6900	400*230*225mm 265g	
6	Cushion Bottom Right	6810 0000 7000	400*230*225mm 265g	
7	TV bag	6820 0000 8900	1050×900mm	
8	Manual bag	6820 0000 9000		
9	accessory box	6840 0000 5300	255*125*70	
10	Carton buckle	6520 0000 0000		
Stickers				
1	rate lable	6852 0000 1405		
2	Serial number lable	6852 0000 9600		
Plastic				
1	Front cover	6310 0014 3001		
2	Rear cover	6330 0009 4000		
3	Stand top cover	6343 0059 0002		
4	Stand bottom cover	6343 0060 0000		
Cables				
1	LVDS cable	1301 0400 0003		scaler board J608—>panel
2	Connect cable	1301 0200 0065	3pin, 2.5mm, l=300,	Power J12--->SCALER board J716
3	Connect cable	1301 0200 0074	10Pin	*POWER--PANEL
4	Connect cable	1301 0200 0075	14Pin-->10Pin+4Pin	Power board -->I/O board
5	Connect cable	1301 0200 0076		POWER--PANEL
6	Connect cable	1301 0200 0112	13Pin	SCALER--POWER
7	Connect cable	1301 0200 0116	16Pin	side IO--IO board
8	Connect cable	1301 0200 0079	L=200mm, yellow/green	Power plug HF301"E"-->Lock to bracket

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9	Connect cable	1301 0200 0080	L=270, red, ul,	Power plug HF301 "L"-->Power switch, Power plug HF301 "N"-->Power switch
10	Connect cable	1301 0200 0093		Power switch-->Power board
11	FFC cable	4510 0000 5000		IO JV2-->SCALER board J705
12	FFC cable	1301 0100 0017		I/O board JV3-->SCALER board J707
13	FFC cable	1301 0100 0035	7pin, 1.0mm, L=60mm	control of key board --->KEY board
14	Connect cable	1301 0200 0054	L=120mm, red	bourdon speaker--->alt speaker positive pole
15	Connect cable	1301 0200 0055	L=120mm, white	bourdon speaker--->alt speaker negative pole
16	Connect cable	1301 0200 0101	500mm , 5PIN	IR board--> I/O board
17	Earthing cable	1301 0300 0002		IR、LED board-->Front panel
18	Earthing cable	1301 0300 0005	L=180mm, black	KEY board-->Front panel
19	Connect cable	1301 0200 0052	8pin, 1.25mm, L=855mm	KEY board-->I/O
20	Connect cable	1301 0200 0539	R=1200mm, L=800mm	Loudspeaker-->I/O
Foil				
1	Foil shield for cable	6643 0000 1100	50x120mm	
2	Foil shield for cable	6643 0000 1200	80x160mm	
Binder				
1	Binder	6520 0000 0500		
2	Binder	6520 0000 0600		
Speakers				
	Loudspeaker	2503 0100 0006	78mm 8W 83dB 95Hz	
	Loudspeaker	2503 0100 0001	Dimension:35mm	
Screw				
1	Screw	6900 0100 0019		
2	Screw	6900 0100 0022		
3	Screw	6900 0100 0053	L=8MM diameter: 4mm	
4	Screw	6900 0100 0072	L=8MM diameter: 3mm	
5	Screw	6900 0100 0076	L=20 mm diameter: 6mm	
6	Screw	6900 0100 0077	L=12 mm diameter: 5mm	
7	Screw	6900 0100 0084	L=8 mm diameter: 4mm	
8	Screw	6900 0100 0021		
9	Screw	6900 0100 0073	L=8 mm diameter: 3mm	
10	Screw	6900 0100 0080	L=8 mm diameter: 3mm	
11	Screw!	6900 0000 0012		
12	Screw!	6900 0000 0045		
13	Screw!	6900 0000 0044		
14	Screw!	6900 0000 0012		
15	Screw!	6900 0000 0014		
16	Screw!	6900 0000 0013		
Others				
	Power switch	1501 0000 0000	Dualpole, black	
	Power plug	1400 0100 0000	3pin, 10A, 250VAC	

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10.3. Maintenance spare part list

Mode:LC42T1E				
Total shipment(units)				
	Part name	**Part NO.**	**Discriptions1**	**Discriptions2**
Panel				
1	LCD panel	2603 0200 0015		
Board				
1	Power board	FKV7.827.927HF		
2	Scaler board	FKV7.829.383SHD1		
3	Tuner board	FKV7.827.988HD		
4	I/O board	FKV7.829.736SH		
5	Side I/O board	FKV7.829.310HC		
6	Key/IR receiver board	FKV7.828.479H		
7	HDMI board	FKV7.828.105SHB		
Accessories				
1	Remote Control	3600 0200 0014		
2	Power cord	1300 0000 0004		H05VV-F3G0.75MM2 BLACK 1.5M
3	User's manual	6850 0000 5001		
4	Battery	2900 0200 0002		
5	Certificate paper	6851 0000 3200		
Packaging				
1	Cartoon box top	6840 0000 8700	1220×433×933	
2	Cartoon box bottom	6840 0000 6102	1200×413×260	
3	Cushion Top Left	6810 0001 0501	405*280*260	
4	Cushion Top Right	6810 0001 0601	405*280*260	
5	Cushion Bottom Left	6810 0001 0301	430*280*175	
6	Cushion Bottom Right	6810 0001 0401	430*280*175	
7	TV bag	6820 0000 0300	1050×900mm	
8	Manual bag	6820 0000 9000		
9	accessory box	6840 0000 5300	255*125*70	
10	Carton buckle	6520 0000 0000		
Stickers				
1	rate lable	6852 0000 5102		
2	Serial number lable	6852 0000 9600		
Plastic				
1	Front cover	6310 0118 0000		
2	Rear cover	6330 0013 1000		
3	Stand top cover	6343 0059 0002		
4	Stand side cover	6343 0060 0000		
Cables				
1	LVDS cable	1301 0400 0000		scaler board J301—>panel
2	Connect cable	1301 0200 0075		Power board -->I/O board
3	Connect cable	1301 0200 0079		Power plug HF301"E"-->Lock to bracket
4	Connect cable	1301 0200 0112		SCALER--POWER
5	Connect cable	1301 0200 0173		side IO--IO board
6	Connect cable	1301 0200 0536		Power board J12--->SCALER J716
7	Connect cable	1301 0200 0100		POWER board J1、J5--PANEL

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8	Connect cable	1301 0200 0553		Power board J4 <---- >Panel
9	Connect cable	1301 0300 0007		Power plug HF301 "L"-->Power switch,Power plug HF301 "N"-->Power switch
10	Connect cable	1301 0200 0093		Power switch-->Power board
11	FFC cable	4510 0000 5000		IO JV2-->SCALER board J705
12	FFC cable	1301 0100 0017		I/O board JV3-->SCALER board J707
13	FFC cable	1301 0100 0035	7pin, 1.0mm, L=60mm	control of key board --->KEY board
14	Connect cable	1301 0200 0054		bourdon speaker--->alt speaker positive pole
15	Connect cable	1301 0200 0055		bourdon speaker--->alt speaker negative pole
16	Connect cable	1301 0200 0211	5PIN	IR board--> I/O board
17	Earthing cable	1301 0300 0002		IR、LED board-->Front panel
18	Earthing cable	1301 0300 0005	L=180mm, balck	KEY board-->Front panel
19	Connect cable	1301 0200 0049	8pin, 1.25mm, L=650mm	KEY board-->I/O
20	Connect cable	1301 0200 0132	4pin, 4.0mm, L=1200mm, L1=800mm	Loudspeaker-->I/O
Foil				
1	Foil shield for cable	6643 0000 1100	50x120mm	
2	Foil shield for cable	6643 0000 1200	80x160mm	
Binder				
1	Binder	6520 0000 0500		
2	Binder	6520 0000 5200		
Speakers				
	Loudspeaker	2503 0100 0006	78mm 8W 83dB 95Hz	
	Loudspeaker	2503 0100 0001	Dimension:35mm	
Screw				
1	Screw	6900 0100 0019		
2	Screw	6900 0100 0067	L=8 mm diameter: 4 mm	
3	Screw	6900 0100 0075	L=8 mm diameter: 3 mm	
4	Screw	6900 0100 0076	L=20 mm diameter: 6mm	
5	Screw	6900 0100 0077	L=12 mm diameter: 5mm	
6	Screw	6900 0100 0058	L=6 mm diameter: 4 mm	
7	Screw	6900 0100 0021		
8	Screw	6900 0100 0073	L=8 mm diameter: 3 mm	
11	Screw!	6900 0000 0011		
12	Screw!	6900 0000 0012		
13	Screw!	6900 0000 0013		
14	Screw!	6900 0000 0014		
15	Screw!	6900 0000 0024	L=8 mm diameter: 3 mm	
16	Screw!	6900 0000 0030	L=12 mm diameter: 3 mm	
Others				
	Power switch	1501 0000 0000	Dualpole, black	
	Power plug	1400 0100 0000	3pin, 10A, 250VAC	

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10.4.Maintenance spare part list

Mode:LC26T1E				
Total shipment(units)				
	Part name	**Part NO.**	**Discriptions1**	**Discriptions2**
Panel				
1	LCD panel	2603 0200 0029		
Board				
1	Power board	FKV7.827.226HB1		
2	Scaler board	FKV7.829.547SH		
3	Tuner board	FKV7.827.988HD		
4	I/O board	FKV7.829.010HC		
5	Side I/O board	FKV7.829.310HC		
6	Key/IR receiver board	FKV7.828.479H		
7	HDMI board	FKV7.828.105HB		
Accessories				
1	Remote Control	3600 0200 0014		
2	Power cord	1300 0000 0004		H05VV-F3G0.75MM2 BLACK 1.5M
3	User's manual	6850 0000 5001		191*259mm
4	Battery	2900 0200 0002		MIDI-MAX-R6P-A
5	Certificate paper	6851 0000 3200		
Packaging				
1	Cartoon box top	6840 0000 3704	830×644×374	
2	Cartoon box bottom	6840 0000 3702	810×354×260	
3	Cushion Top Left	6810 0000 5500	PE,342×157×178mm	
4	Cushion Top Right	6810 0000 5600	PE,342×157×178mm	
5	Cushion Bottom Left	6810 0000 5300	PE,346×157×221mm	
6	Cushion Bottom Right	6810 0000 5400	PE,346×157×221mm	
7	TV bag	6820 0000 0600		
8	Manual bag	6820 0000 9000		
9	accessory box	6840 0000 5509		
10	Carton buckle	6520 0000 0000		
Stickers				
1	rate lable	6852 0000 2903		nameplate
2	Serial number lable	6852 0000 9600		
Plastic				
1	Front cover	6311 0021 0005		
2	Back cover	6331 0013 2001		
3	Pedestal top cover	6340 0001 0002		
4	Pedestal bottom cover	6340 0000 0003		
Cables				
1	LVDS cable	1301 0400 0004	30pin,L=350mm,shield	scaler board JF603—>panel
2	Connect cable	1301 0100 0018	50PIN*0.5MM*90 A型	scaler board J401—>HDMI
3	FFC cable	1301 0200 0130	5pin	scaler board J403—>HDMI
4	Connect cable	1301 0200 0127	11pin	Power--->SCALER board J704
5	Connect cable	1301 0200 0077	14pin-12pin,2.0mm	*POWER--INVERTER
6	Connect cable	1301 0200 0111	12pin,2.0mm	Power board -->I/O board
7	Connect cable	1301 0200 0217	16Pin , 180mm+/-5mm	side IO--IO board
8	Connect cable	1301 0200 0053	L=220mm,yellow/green	Power plug -->Lock to bracket
9	Connect cable	1301 0200 0080	L=270,red,ul,	Power plug "L"-->Power switch,Power plug "N"-->Power switch
10	Connect cable	1301 0200 0060		Power switch-->Power board
11	FFC cable	1301 0100 0030	30PIN*80MM*1.0MM*A型	IO board-->SCALER board J705,J706

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12	Connect cable	1301 0200 0180		I/O--->speaker (*J31-left ,J32-right)
13	Connect cable	1301 0200 0540	L=650mm, 8pin,UL2854 AWG28/6C	KEY-->I/O
14	FFC cable	1301 0100 0035	7pin,1.0mm,L=60mm	control of key board --->KEY board
15	Connect cable	1301 0200 0048	5pin,1.25mm,L=450mm	IR board--> I/O board
16	Earthing cable	1301 0300 0002	LD-190S#	LED board-->Front panel
17	Earthing cable	1301 0300 0005	L=180mm, black	KEY board-->Front panel
Foil				
1	Foil shield for cable	6643 0000 1100	50x120mm	
2	Foil shield for cable	6643 0000 1200	80x160mm	
Binder				
1	Binder	6520 0000 0600		
Speakers				
1	speaker	2503 0100 0007	60*130mm 8ohm 84dB 150Hz	
Screw				
1	Screw	FKV4.173.521H	6900 0000 0010	*Back cover一>Front cover6
2	Screw	FKV4.173.521H	6900 0000 0014	*Down press strip->Front cover4, Up press strip->Front cover4, (left) side press strip->Front cover3, side-IO support plank+ (left) side press strip->Front cover2, (right) press strip->Front cover4, SCALER support plank+(right)side press strip-> Front cover1, optical interface->IO baffle->1, HDMI-> IO baffle1, Down press strip->Blanket stand2
3	Screw	FKV4.173.521H	6900 0100 0019	*TUNER Board->I/O Board
4	Screw	FKV4.173.521H	6900 0100 0067	L=8.0mm, Nominal diameter: 4 mm ,Whorl length: 8mm
5	Screw	FKV4.173.521H	6900 0100 0068	L=14.0 mm, Nominal diameter: 5 mm
6	Screw	FKV4.173.521H	6900 0100 0104	L=10.0mm ,Nominal diameter: 4mm
7	Screw	FKV4.173.522H	6900 0000 0013	*side IO plank->side IO side cover2
8	Screw	FKV4.173.522H	6900 0100 0019	Side-IO_PCB->side IO plank3
9	Screw	FKV4.173.524H	6900 0000 0014	*Noumenon connect staff->Blanket stand3*2,Up press strip->Noumenon connect staff1*2, Power fixing strip->Noumenon connect staff2*2,Power Board->Power fixing strip3,SCALER shield cover->SCALER support plank5, ,IO baffle->Blanket stand2, ,Down press strip->Blanket stand6,*IO baffle->IO Terminal6, *Noumenon connect staff left->Blanket stand3,Noumenon connect staff right->Blanket stand1,Up press strip->Noumenon connect staff1*2, Power fixing strip->Noumenon connect staff2*2,Power Board->Power fixing strip3,IO baffle->Blanket
10	Screw	FKV4.173.524H	6900 0100 0019	
11	Screw!	FKV4.173.531H	6900 0000 0034	L=8 mm, Nominal diameter: 3 mm, Whorl length: 8 mm
12	Screw!	FKV7.827.226HB1	6900 0000 0024	L=8 mm, Nominal diameter: 3 mm ,Whorl length: 8mm
13	Screw!	FKV7.827.226HB1	6900 0000 0030	L=12 mm, Nominal diameter: 3 mm
14	Screw!	FKV4.173.566H	6900 0000 0014	*SCALER shield cover->SCALER support plank5
15	Screw!	FKV4.173.566H	6900 0100 0019	*SCALER-PCB->SCALER support plank4, SCALER-PCB->HDMI-PCB3
16	Screw!	FKV7.828.105HB	6900 0100 0019	*HDMI board->SCALER board3

17	Screw!	FKV6.178.588H	6900 0000 0010	**Back cover->Front cover4
18	Screw!	FKV6.178.588H	6900 0000 0014	*Front cover->sound box net frame12,Sperker back cover(left)->Front cover6, Sperker back cover(right)->Front cover6, IR_PCB->Front cover2,LED_PCB->Front cover2,Oriented tube->Front cover4*2
19	Screw!	FKV6.178.588H	6900 0000 0031	L=8 mm, Nominal diameter: 3 mm ,Whorl length: 8 mm
20	Screw!	FKV6.150.096H	6900 0000 0035	L=12 mm ,Nominal diameter: 3 mm
Others				
1	Power switch	1501 0000 0000	Dualpole, black	
2	Power plug	1400 0100 0000	3pin,10A,250VAC	

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11.1.Trouble shooting

Symptoms	Possible cause	Remark
No power	·Check if the power plug has been inserted properly into the socket.	
	·Check if the power switch has been turned on.	
No picture,no sound	·Check if the power board could work normally.	·Refer to "Power Board Trouble shooting"
	·Check if the wires are OK and connected correctly.	
	·Check if the TV could receive KEY or IR signal normally.	·Refer to "KEY/IR signal Trouble shooting"
	·Check if the Scaler board could work normally.	·Generally, 1)The voltage of BLKON pin in SCALER board J704 is above 2.4V. 2)24V voltage is supplied to INVERTER board. 3)5V/12V voltage supplied to the VLCD pin in SCALER board JF603 4)wires are OK and connected correctly. the LCD panel lights could be turned on if the four conditions above is met.we can see backlight from LCD panel's back. ·If there's still no picture/sound,it means the SCALER does not work well,we can check the U20/U18/U21 in the Scaler board to see if 1.8V /2.5V/ 3.3V is output well.Check resistances,which connect with U9,are soldered well.Check the crystal oscillater beside U9 with oscillograph.
	·Check if the LCD Panel could work normally.	·we can use new SCALER board,LVDS wire to check it.
No/Bad picture in all sources	·Check if TV is interfered by something,such as high voltage transmission line. ·Check the SCALER board,LCD panel and LVDS wire between them.	Generally,the problems below are caused by LCD panel. 1)bright/dark line on the screen at all times 2)bright/dark block on the screen at all times
No/Bad picture in TV source	·Search the channel again,if it's still NG, ·Check if the TV signal is OK.Maybe there is interference outside. ·Check if the TV software matches TV signal format.There may be some bugs in the software sometimes,update the software if necessary. ·Check if the wire connection is loose. ·Check the tuner board,IO board and SCALER board.	Generally,if the TV-CVBS and SIF are output from TUNER board,the TUNER board is ok.then ·Check the TTCL,TSDA,CVBS signal in SCART board JV101.Check the synchronism circuit in SCALER board.The circuit output voltage should be about 5V.
No/Bad picture in Other sources except TV	·Check the IO board and SCALER board. ·Check the Card reader board if the USB/SD/CF source's image is abnormal.	·We need to check HDMI board if no HDMI signal output.
NO/Bad sound in all/some sources.	·Check if "mute"function is turned on. ·Check if the sound volume is set to minimum. ·Check if the sound system is set correctly according to the TV signal.There may be some bugs in the software sometimes,update the software if necessary. ·Check the IO board,loudspeakers and wires between them.we also need to check mini IO board if the correlative source does not work well. ·Check the Card reader board if the USB/SD/CF source's sound is abnormal.	·Check IO board:include power and mute circuit(high voltage level means MUTE). ·Check CXA2069Q,TDA9875,LX1722,NJM4558(operational amplifier) input and output.If there is no signal output,check the relevant IC' power supply,crystal oscillatior,IIC. ·Check the relay. ·We need to check HDMI board if no HDMI signal output.

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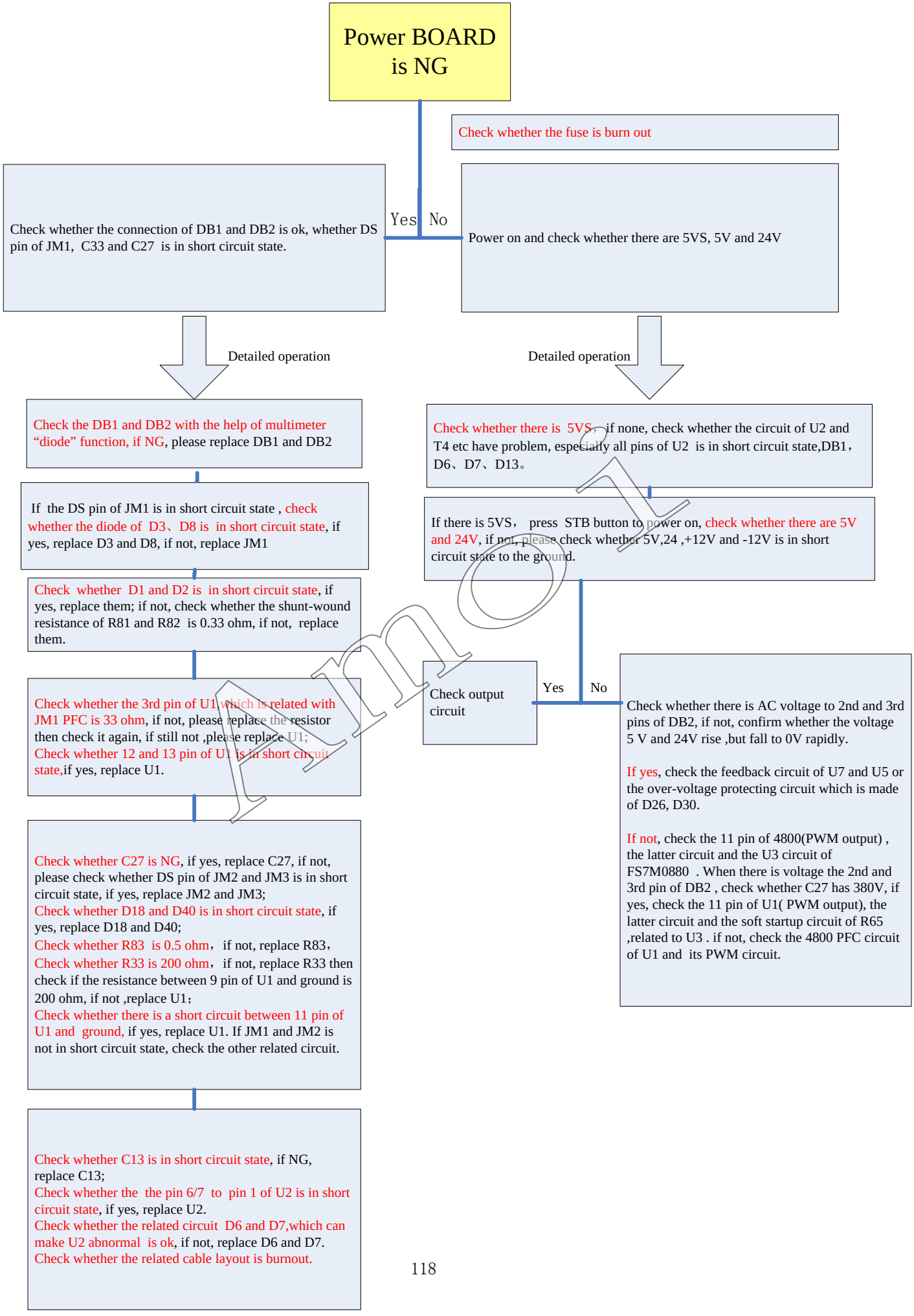
11.2. Power Board


Power BOARD is NG
Check whether the fuse is burn out
Check whether the connection of DB1 and DB2 is ok, whether DS pin of JM1, C33 and C27 is in short circuit state.
Yes
No
Power on and check whether there are 5VS, 5V and 24V
Detailed operation
Detailed operation
Check the DB1 and DB2 with the help of multimeter "diode" function, if NG, please replace DB1 and DB2
If the DS pin of JM1 is in short circuit state , check whether the diode of D3、D8 is in short circuit state, if yes, replace D3 and D8, if not, replace JM1
Check whether D1 and D2 is in short circuit state, if yes, replace them; if not, check whether the shunt-wound resistance of R81 and R82 is 0.33 ohm, if not, replace them.
Check whether the 3rd pin of U1 which is related with JM1 PFC is 33 ohm, if not, please replace the resistor then check it again, if still not ,please replace U1;
Check whether 12 and 13 pin of U1 is in short circuit state,if yes, replace U1.
Check whether C27 is NG, if yes, replace C27, if not, please check whether DS pin of JM2 and JM3 is in short circuit state, if yes, replace JM2 and JM3;
Check whether D18 and D40 is in short circuit state, if yes, replace D18 and D40;
Check whether R83 is 0.5 ohm， if not, replace R83，
Check whether R33 is 200 ohm， if not, replace R33 then check if the resistance between 9 pin of U1 and ground is 200 ohm, if not ,replace U1；
Check whether there is a short circuit between 11 pin of U1 and ground, if yes, replace U1. If JM1 and JM2 is not in short circuit state, check the other related circuit.
Check whether C13 is in short circuit state, if NG, replace C13;
Check whether the the pin 6/7 to pin 1 of U2 is in short circuit state, if yes, replace U2.
Check whether the related circuit D6 and D7,which can make U2 abnormal is ok, if not, replace D6 and D7.
Check whether the related cable layout is burnout.
Check whether there is 5VS, if none, check whether the circuit of U2 and T4 etc have problem, especially all pins of U2 is in short circuit state,DB1，D6、D7、D13。
If there is 5VS， press STB button to power on, check whether there are 5V and 24V, if not, please check whether 5V,24 ,+12V and -12V is in short circuit state to the ground.
Check output circuit
Yes
No
Check whether there is AC voltage to 2nd and 3rd pins of DB2, if not, confirm whether the voltage 5 V and 24V rise ,but fall to 0V rapidly.
If yes, check the feedback circuit of U7 and U5 or the over-voltage protecting circuit which is made of D26, D30.
If not, check the 11 pin of 4800(PWM output) , the latter circuit and the U3 circuit of FS7M0880 . When there is voltage the 2nd and 3rd pin of DB2 , check whether C27 has 380V, if yes, check the 11 pin of U1(PWM output), the latter circuit and the soft startup circuit of R65 ,related to U3 . if not, check the 4800 PFC circuit of U1 and its PWM circuit.

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